Shevchuk Oleksandra,
Doctor of Pedagogical Sciences, Associate Professor,
Associate Professor of Foreign Languages Department,
Bohdan Khmelnytskyi National Academy of the State Border Guard Service of Ukraine
(Khmelnytskyi, Ukraine)

APPLICATION OF THE TECHNOLOGICAL APPROACH TO DISTANCE LEARNING IN THE TRAINING OF BORDER GUARD OFFICERS IN EUROPEAN UNION COUNTRIES (based on the German experience)

The modern system of training border guard officers in the European Union countries is based on the principles of the technological approach, which involves the integration of information and communication technologies into every stage of the educational process. The technological approach to distance learning (hereinafter – DL) for border guards is defined by the use of various technical tools and innovations to improve the quality and accessibility of education. The main characteristics of the technological approach in DL for border guards include the implementation of specialized web-based platforms for education, which allow the creation and deployment of training materials, video lessons, tasks, and other resources; the use of virtual simulations and imitative technologies; the use of virtual trainers to simulate real scenarios and resolve situations that arise at the border; the creation and use of various multimedia materials such as video lectures, audio files, animations, and illustrations; the organization of remote lectures, training sessions, and meetings through video conferencing platforms for interaction between instructors and trainees; the development and use of mobile applications for access to training resources, completion of tasks, and obtaining necessary information. This approach ensures the unity of training standards, continuity of education, and the ability to quickly update educational content in accordance with changes in the operational environment.

In Germany, the border service (Bundespolizei) actively employs such approaches to train personnel, particularly at training centers in Lübeck (the German Federal Police Academy). Implemented LMS systems make it possible to combine training materials, tests, interactive trainings, and communication between instructors and trainees into a single digital ecosystem. This is particularly important for officers serving in different federal states, as it ensures a uniform training standard and access to up-to-date materials [4].

The European Border and Coast Guard Agency (FRONTEX) coordinates the creation and dissemination of training programmes for EU member states. An important tool is the Frontex Virtual Aula platform, which provides remote access to training modules, webinars, interactive courses, and virtual simulations [1].

In Germany, this platform is used as part of the mandatory training of officers, particularly during education on migration flow management, document verification, combating human trafficking, and smuggling. For instance, the module "Schengen Borders Code Advanced Training" allows officers to practice scenarios of control at internal and external EU borders online, familiarize themselves with current legislative changes, and obtain certificates recognized by all member states [5].

In addition, Germany takes an active part in developing FRONTEX training materials. Experts from the Federal Police contribute to the creation of training programs on countering hybrid threats and organized crime at borders, which allows German experience to be taken into account in shaping European training standards [2].

The technological approach makes it possible to implement a modular competence-based principle, which underlies the Common Core Curriculum (CCC) and the Sectoral Qualifications Framework (SQF). This means that learning outcomes are standardised, and officers trained in one country can effectively operate as part of joint European missions [3].

In Germany, training programs consist of basic modules (legal foundations, human rights, operational-service activities) and specialized modules (work with migrants, aviation security, maritime border protection). Each module has a digital version for remote learning and a final testing in the LMS system. This allows the program to be adapted to the individual needs of the trainee, reducing time for repeated learning, and focusing on practical skills.

One of the most promising areas of the technological approach is the introduction of virtual reality (VR) and augmented reality (AR) into borderguards` training. In Germany, VR simulators have been created that allow the practice of scenarios such as document verification at border crossing points (BCPs), vehicle inspections, forgery detection, and conflict response.

For example, the VR module "Border Control Immersive Training," used in Bundespolizei training centers, simulates the operation of an international airport: an officer, wearing VR glasses, interacts with passengers, checks documents, identifies suspicious behavior, and makes decisions. This approach allows hundreds of scenarios to be practiced without security risks, including those that rarely occur in real life but require a quick and precise response [6].

AR applications are used in vehicle inspection training: the trainee can point a tablet or phone at a virtual vehicle model and receive prompts about typical hiding

places for contraband. This enhances the level of practical training without the need to involve a large number of real vehicles [7].

Thanks to analytics integrated into LMS systems, instructors are able to monitor each officer's progress, identify weaknesses, and recommend additional modules or repeat trainings. For example, if a trainee does not demonstrate a sufficiently high level during a VR simulation of document control, the system automatically suggests completing an additional training on forgery detection. This creates a personalised learning trajectory and ensures a uniform high training standard.

The advantages of the technological approach also include:

- increasing the accessibility of education regardless of the officer's place of service;
- enabling rapid updating of content in accordance with changes in the EU legal framework;
- reducing the financial costs of face-to-face courses and field trainings;
- promoting the formation of a unified professional environment and enhancing the operational interoperability of units from different countries.

The German experience shows that the combination of distance courses, VR simulations, and international FRONTEX programs creates a comprehensive training system that meets the challenges of modern border security and can be adapted for other states, including Ukraine.

The technological approach in border guard training also involves consideration of modern technological trends and innovations relevant in the field of border protection, such as artificial intelligence systems, big data, etc., as well as the use of electronic systems for assessment and monitoring of cadets' performance, creation of reports, and analytics on the quality of education. These characteristics of the technological approach make it possible to create effective and interactive learning conditions for border guards, contributing to the development of their professional skills in a remote format.

References:

1. European Border and Coast Guard Agency (Frontex). *Virtual Aula – Online Learning Platform*. Warsaw, 2023. URL: https://frontex.europa.eu

2. European Border and Coast Guard Agency (Frontex). Common Core Curriculum for Border Guard Basic Training in the European Union. Warsaw: Frontex, 2022. 110 p.

3. European Border and Coast Guard Agency (Frontex). *Sectoral Qualifications Framework for Border Guarding (SQF)*. Warsaw: Frontex, 2021. 88 p.

4. Bundespolizei. Aus- und Fortbildung in der Bundespolizei. *Офіційний вебсайт Bundespolizei,* 2023. URL: https://www.bundespolizei.de

5. Deutsche Hochschule der Polizei. E-Learning und Simulationstraining für die Polizeiausbildung. Münster, 2023.

6. Ziegenmeyer T., et al. Virtual Reality in Law Enforcement Training: Opportunities and Challenges // *Journal of Police Science*. 2022. Vol. 5, № 3. P. 45–58.

7. Baláž V., Záhorová M. Distance Learning in Security Forces Education: EU Experiences. *Security Forum Journal*. 2021. № 2. С.15–28.