

# Enhancing Professional Development through Foreign Language Communicative Competence in Navigation and Ship Handling Specialists

Iryna Shvetsova <sup>1\*</sup>; Alona Leshchenko <sup>1</sup>

<sup>1</sup> *Kherson State Maritime Academy, Ukraine*

\*[phd.shvetsova@gmail.com](mailto:phd.shvetsova@gmail.com); Tel.: +38-066-077-4339

[alena020114@ukr.net](mailto:alena020114@ukr.net); Tel.: +38 050 554 0008

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**Abstract:** The paper discusses the system for developing foreign language communicative competence among specialists in navigation and ship handling at sea within the framework of lifelong education. The proposed system is designed as a structured educational framework that not only provides knowledge but also develops critical professional skills. It includes a comprehensive integration of theoretical, structural, technological and diagnostic components, each of which is essential to provide a comprehensive education that meets international maritime standards. At its core, the system includes a concept and objectives component that defines the strategic direction and goals of the educational process and ensures compliance with legal and regulatory standards. The content and structure component addresses the curriculum and teaching resources required to develop the foreign language skills critical for professional interactions in the international maritime context. In addition, the technology component enhances the learning experience through modern educational technologies and methods and contributes to the development of practical communication skills required by the maritime industry. Finally, the diagnostic and corrective component focuses on the continuous evaluation and improvement of the educational process to meet the changing needs of the maritime sector and its professionals. Overall, this system seeks not only to meet the immediate educational needs of maritime professionals, but also to ensure their continuing professional development and adaptation to global industry standards and practices. This approach emphasises the importance of a holistic educational strategy to develop the necessary skills and competencies in a dynamically changing global context.

*Keywords:* foreign language communicative competence; navigation and ship handling; professional development of specialists in navigation, developing language proficiency.

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## 1. Introduction

A modern specialist in navigation and ship handling is today a universally recognized leader in implementing state programs aimed at the purposeful development of foreign language communicative competence, which facilitates the successful execution of professional duties at an international level. Professional education provides the initial acquisition of substantial knowledge, the development of creative abilities and cognitive interests, and the ability to apply them in real professional processes. The challenge of integrating the system of forming foreign language communicative competence for specialists in navigation and ship handling within the context of lifelong education into a competitive educational environment is directly related to the development of a design concept that ensures high-quality education and guaranteed developmental outcomes.

A comprehensive analysis of research and priority measures directed at implementing state policy to improve the educational process of foreign language education for forming foreign language communicative competence among specialists in navigation and ship handling in the context of lifelong education reveals the following contradictions: the increasing demands of international and national quality standards for foreign language communicative competence among specialists in navigation and ship handling, juxtaposed with the insufficient level of their professional training; the necessity of forming professional foreign language communicative competence among specialists in navigation and ship handling in conditions of lifelong

education, contrasted with the lack of scientifically grounded organizational and pedagogical conditions to ensure this process; modern requirements for improving the system of forming professional foreign language communicative competence among specialists in navigation and ship handling versus the current state of its scientific and pedagogical support; the need for effective methods of forming professional foreign language communicative competence among specialists in navigation and ship handling and the insufficient scientific methodological development of the application of modern teaching technologies. To meet the stringent requirements outlined by the STCW (International Convention on Standards of Training, Certification and Watchkeeping for Seafarers) [1], it is essential to develop a robust system for cultivating foreign language communicative competence among specialists in navigation and ship handling within the framework of lifelong education.

The social significance and objective need of the maritime sector for specialists in navigation and ship handling with a high level of foreign language communicative competence, coupled with the insufficient theoretical and methodological development of this issue in the theory and practice of professional education, and the need to address the identified contradictions, have necessitated the creation of a system for developing foreign language communicative competence among specialists in navigation and ship handling within the framework of lifelong education. *The aim of the research* is to provide a scientific and theoretical justification for the system of developing foreign language communicative competence among specialists in navigation and ship handling within the context of lifelong education.

## **2. Training maritime professionals with a systematic approach**

Given the increasing international demands for maritime safety, effective communication between crew members and port infrastructure, and the need to meet international training standards, proficiency in foreign languages has become a critically important factor in professional competence. In this context, creating and implementing a system aimed at the continuous improvement of foreign language skills and the development of communicative competencies is an urgent task requiring a comprehensive approach and consideration of the specifics of the maritime industry. This will not only enhance the professional level of specialists in navigation and ship handling but also contribute to the safety and effectiveness of international shipping as a whole. As a fundamental theoretical concept, we use the definition of a "system," which involves describing a complex of interrelated elements forming a structured unity with a common goal. Key characteristics of a system include the multiplicity of components, integration, interrelation of elements, purposeful management, and hierarchy. The educational process in higher maritime educational institutions is thus viewed through the lens of a pedagogical system that encompasses not only the transfer of knowledge but also the formation of essential professional competencies and attributes.

In our research, we define the "System of Formation of Foreign Language Communicative Competence for Specialists in Navigation and Ship Handling in Lifelong Education" as a comprehensive educational structure integrating conceptual-target, content-structural, technological, and diagnostic-corrective components. This system is designed to develop foreign language communicative skills necessary for the effective performance of professional duties by navigation and ship handling specialists in the international maritime environment, in accordance with international regulatory documents. It ensures continuous professional development within the framework of lifelong education and emphasizes functionality, synergy, and hierarchy, involving all participants in the educational process from cadets and students to academic staff, ship captains, and crew management company executives. The implementation of this proposed system follows the hierarchy of educational levels from junior specialist to master's degree and continues with adult education, ensuring continuity. The designed system provides for the sequential development and enhancement of this competence, taking into account specific requirements at each educational-professional level.

### **3. Structuring Maritime Communication Competence in Continuing Education**

The system for developing foreign language communicative competence among specialists in navigation and ship handling within the framework of lifelong education is structured around interconnected subsystems (blocks): conceptual-target, content-structural, technological, and diagnostic-outcome.

#### *3.1. Conceptual-target block: definition of strategies and objectives.*

The conceptual-target component of the system defines the strategic directions, establishing goals, fundamental methodological approaches, and principles that guide activities towards the defined end result,

namely: the development of foreign language communicative competence among specialists in navigation and ship handling within the framework of lifelong education.

The content of the target component of the training program for specialists in the field of "River and Maritime Transport" [2] is determined by social demands and expectations regarding the qualifications of graduates, aimed at enhancing the foreign language communicative competence of specialists in navigation and ship handling. This requirement aligns with global trends in lifelong education and professional development within the maritime sector, emphasizing the importance of intercultural communication in the international maritime environment.

The conceptual-target component of the system for developing foreign language communicative competence among specialists in navigation and ship handling within the context of lifelong education involves selecting and integrating a regulatory and legal framework that provides legal and normative support to the system, ensuring its compliance with established requirements and standards. Important international documents from the International Maritime Organization (IMO) relevant to the development of foreign language communicative competence include: the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers (STCW Convention) 1978 (as amended), the International Regulations for Preventing Collisions at Sea (COLREGS), the International Convention for the Prevention of Pollution from Ships (MARPOL 73/78), the International Safety Management (ISM) Code, IMO Model Courses for additional training and certification of seafarers, as well as national documents such as: "The Maritime Doctrine of Ukraine," "Strategic Plan for the Development of Maritime Transport up to 2020," "Strategy for the Development of Seaports of Ukraine up to 2038," and "Regulations on the State System for Maritime Safety Management." Thus, the conceptual-target component serves as the foundation upon which strategic planning and implementation of the educational process are built, ensuring its coherence, systematic approach, and effectiveness.

### *3.2. Content and structural component: integration of disciplines and methods*

The content-structural component of the educational process for specialists in "River and Maritime Transport" encompasses a comprehensive approach to defining the curriculum, including the selection of subjects, development of training programs, and methodological resources aimed at enhancing foreign language communicative competence (FLCC) in specialists in navigation and ship handling. This component entails the systematic organization of educational material, ensuring logical coherence and integrity within the educational process.

The core content of the "Navigation and Ship Handling" program includes course syllabi for both professionally communicative (e.g., Foreign Language, English for Professional Purposes, Maritime English, Business English) and professionally practical subjects (e.g., Theory and Construction of Ships, Maneuvering and Ship Handling), ensuring comprehensive training in alignment with international and national standards.

The study details the content of key components of FLCC within the context of lifelong education, including axiological-motivational (enhancing motivation and value attitudes towards learning foreign languages), cognitive (developing knowledge, skills, and abilities in specialized foreign languages), and regulatory-activity components (applying practical skills for effective professional communication). This holistic approach to developing FLCC within lifelong education highlights the integrated learning process, addressing various aspects of professional competence for navigation and ship handling specialists, and enhancing their effective performance in the international professional environment. The interdisciplinary connection between foreign language study and specialized subjects enables learners to better understand professional terminology and its application, which is crucial for a deeper grasp of international maritime standards, regulations, and international maritime law.

The process of developing FLCC in the international context is multi-tiered and requires consideration of international standards, notably the requirements of the International Convention on Standards of Training, Certification, and Watchkeeping for Seafarers (STCW 78/95), as well as national educational standards. Defining specific tasks at each educational level involves differentiating learning objectives and methods to achieve optimal professional training considering the specifics of working in the international maritime environment. This approach provides flexibility and adaptability in the educational process to changing conditions and requirements of the international labor market in maritime transport.

Key components of FLCC, such as axiological-motivational, cognitive, and regulatory-activity aspects, support systematic and conscious application of linguistic and intercultural abilities. This structure aids specialists in perceiving and understanding other cultural positions and values, and facilitates effective professional interactions based on subject-subject cooperation and dialogue. This integrated system forms the

foundation for successful execution of international professional duties and intercultural dialogue, and is crucial for developing professional skills in the context of lifelong education.

The content-structural block includes the development, testing, and implementation of innovative proprietary contributions to the educational process in the system for developing FLCC among navigation and ship handling specialists. These include: electronic courses on "Maritime English"; a repository of audio and video materials, test tasks developed using the "MOODLE" platform; a model curriculum for "General English Language Level B1-C1"; instructional and methodological materials for "Maritime English," including sections on "Bulk Cargo Carriers" and "Visual and Sound Signaling," and instructor's books for these modules.

Based on the research, specialized courses have been developed and implemented into the educational process: "Fundamentals of Foreign Language Communicative Competence for Navigation and Ship Handling Specialists" for junior bachelor and bachelor levels in "Navigation and Ship Handling"; "Business Foreign Language Communicative Competence: Advanced Course for Maritime Leaders" and practical training for master's level students in "Navigation and Ship Handling"; and "Leadership and Team Dynamics" and "Mastering Team Leadership and Communication" in collaborative online international learning (COIL). Training and methodological materials for the educational component "Maritime English" have been prepared and implemented, including: "While Ashore" (co-authored) and "Welcome Aboard" (co-authored), addressing the required competencies for navigation and ship handling specialists within the context of lifelong education. In conclusion, the content-structural component of the educational process in preparing specialists in "River and Maritime Transport" necessitates a comprehensive approach integrating theoretical knowledge, practical skills, and communicative competencies. The challenges of modern maritime transport demand not only high levels of professional preparation but also the ability to engage in effective intercultural communication and adapt to the global professional environment.

### *3.3. Technological component: use of modern educational technologies*

The technological block in the educational process for training specialists in navigation and ship management encompasses the implementation of modern educational technologies and active learning methods, as well as tools and forms of the educational process that contribute not only to the acquisition of language skills but also to the development of practical professional communication abilities.

Forms of the Educational Process: Classroom Activities: e-learning, flipped learning, blended learning, practical sessions.

Extracurricular Activities: conversation clubs with native speakers, Writing Cafe and Speaking Cafe, interdisciplinary quests (e.g., "Amazing Quest," "Geographical Quests," and COLREG competition), workshops, masterclasses, guest lectures, and academic poster sessions, scientific SANDPITS for cadets and instructors, and scientific seminars.

Self-Directed Learning: reflective portfolios, case analysis and resolution, interactive webinars and video courses, online simulations and training tools.

Active Learning Methods: brainstorming, formal debate, simulation, delegate discussions, market groups (also known as 'world cafes'), question and answer, role-play, think-pair-share, snowballing, jigsaw, buzz groups, fishbowl, duo, gapped handout, worksheet, vote-with-your-feet (continuum or spectrum), one-minute essay, write a summary, and others. The use of interactive methods creates conditions for integrating theoretical knowledge with practical skills and motivates students to actively engage in the educational process.

An important component of the technological block is the tools. These include:

Organizational and Methodological Tools: Working programs for educational components, syllabi, methodological recommendations.

Educational and Methodological Tools: Materials developed in LMS Moodle, a repository of audiovisual and video materials (a repository of maritime professional literature in a foreign language), training tasks (flashcards), test tasks "Self-Study" and "Stop and Check" on the Moodle platform in LMS.

Technical Tools: Multimedia projectors, simulators, VR equipment. Didactic Tools: Software and applications (Google cloud applications), LMS Moodle, Zoom, Canva, Learning Apps, and others.

Technologies for developing foreign language communicative competence in specialists in navigation and ship management within the framework of continuous education include: Immersive technologies: Virtual Reality (VR), Augmented Reality (AR), and Mixed Reality (MR); Gaming and simulation technologies: Interactive exercises and online platforms; Project-based technologies: International projects such as the "Hello Project" and "Leadership"; Collaborative Online International Learning (COIL); Content and Language Integrated Learning (CLIL); Immersive Language Exposure.

### *3.4. Diagnostic and correction block: monitoring and evaluation of learning effectiveness*

The Diagnostic and Corrective Block focuses on evaluating the performance of the educational process and the achievement of established educational goals. This component incorporates a systematic procedure for monitoring and appreciating academic achievements, including knowledge, skills, and abilities. It analyzes the effectiveness of the educational process and initiates corrective measures based on the analysis of accumulated data. This approach supports the implementation of an integrated strategy for training specialists, aimed at their comprehensive development in the aspect of FLCC, which is crucial for professional success. The system emphasizes the necessity for continuous improvement of the educational process, based on the educational needs of learners and the requirements of the international professional community, and targets the development of a deep understanding of cultural and intercultural competence, which is key to effective international communication in maritime contexts.

The Diagnostic and Corrective Block is directed at assessing the level of formation of FLCC necessary for effective professional activity. The importance of regular monitoring of the quality of preparation for professional activity is determined by the need to provide current information about the state of the system, expressed through specific parameters and characteristics at present. This monitoring is conducted using defined criteria and indicators of professional readiness and its levels of formation. Due to potential discrepancies between expected and actual results of continuous professional training, corrective adjustments to the training process are based on a detailed analysis of preparedness, identification of factors affecting the quality of the educational process, and professional significance.

One of the key features of the continuous professional training system for future ship officers in higher maritime educational institutions is the structure of relationships between its components (subsystems). Based on our research, we affirm that the inherent universal and regular relationship of the designed system facilitates the coordination of interaction among all system elements. Considering the conceptual foundations of forming FLCC in specialists in navigation and ship management within the framework of continuous education, it can be asserted that this universal relationship integrates pedagogical and psychological principles, patterns, and principles of personal development of future specialists, which interact and are structured at various levels: methodological, theoretical, and technological.

Organizational and Pedagogical Conditions for developing FLCC in future specialists in navigation and ship management within the framework of continuous education are pervasive at all stages of formation and integrate theoretical research with practical experience. They are based on methodological principles that play a crucial role in the preparation of specialists within the framework of continuous professional education. These conditions include optimizing educational and methodological support based on an interdisciplinary approach; implementing innovative pedagogical methods and forms of the educational process to engage learners actively in the development of FLCC; involving learners in a professionally oriented educational-linguistic environment through active self-educational activities; and ensuring scientific and methodological support for the development of FLCC in navigation and ship management specialists. The enhancement of FLCC is the result of applying a set of these organizational and pedagogical conditions, enabling qualified specialists to adapt to various challenges and demands of the global labor market, effectively operate in a multicultural maritime environment, and implement innovative technologies in their professional activities.

## **4. Results and Discussions**

One of the key features of the system of continuous professional education of future seafarers in higher maritime educational institutions is the structure of relations between its components (subsystems). On the basis of our research we state that the universal and natural connection inherent in the designed system contributes to the coordination of the interaction of all elements of the system. Taking into account the conceptual provisions on the formation of foreign language communicative competence of specialists in navigation and ship management in the context of continuous education, it can be argued that the mentioned universal connection is an integration of pedagogical and psychological bases, patterns and principles of personality development of future specialists, which interact and are structured at different levels: methodological, theoretical and technological.

The results of the study on the formation of foreign language communicative competence among specialists in navigation and ship handling within the context of lifelong education demonstrate the significance of employing integrated diagnostic methods. Scenario simulations, projects and case studies, analysis of opened responses, feedback and self-assessment, as well as Collaborative Online International Learning (COIL) [3], have proven effective in developing activity-based reflective criteria, which are crucial for the

formation of foreign language communicative competence. The application of these methods not only allowed for a deep evaluation of the level of communicative skills acquisition but also helped identify key areas for further learning and self-improvement of the learners. Based on the analysis of structural characteristics related to the formation of foreign language communicative competence in the field of ship management, it can be concluded that the effectiveness of this formation is closely linked to several key systemic elements of professional education. These include the goals and objectives of the educational process aimed at developing professionally significant personal qualities and achieving specific professional outcomes, as well as fostering interests and needs that influence the formation of personal ideological convictions.

Additionally, the content of education, formats, methodologies, techniques, and procedures employed during the execution of professional tasks and functions are of particular importance. Therefore, the effectiveness of the process of forming foreign language communicative competence among navigation specialists requires a comprehensive approach that integrates these components into a cohesive system.

## **5. Conclusions: prospects and challenges in the field of vocational education and training**

The **System of Formation of Foreign Language Communicative Competence (FLCC)** for specialists in navigation and ship handling represents a notable advancement in vocational education, offering both significant prospects and notable challenges. The system, structured around conceptual-target, contentstructural, technological, and diagnostic components, is designed to enhance the foreign language skills of maritime professionals, ensuring their effectiveness in global maritime contexts.

On the one hand, the integration of lifelong learning within this system facilitates continuous professional development, allowing specialists to remain current with evolving maritime regulations and technological advancements. This approach supports not only immediate educational needs but also long-term career growth. The holistic nature of the system, involving all educational stakeholders — from cadets and students to faculty and industry professionals — promotes a comprehensive and synergistic learning environment. Moreover, the incorporation of modern educational technologies, such as immersive simulations and interactive platforms, enhances practical communication skills and ensures the system's relevance in a rapidly changing industry. However, the implementation of this complex system is not without challenges. Coordinating the various educational components and stakeholders requires meticulous planning and resource management. The rapid pace of technological and regulatory changes necessitates ongoing updates to the system to maintain its effectiveness. Additionally, ensuring rigorous monitoring and evaluation to assess the system's impact and address any gaps is crucial for maintaining high standards. The allocation of adequate resources, including financial support, technological infrastructure, and trained personnel, is essential for the successful operation of the system.

In conclusion, while the **System of Formation of Foreign Language Communicative Competence (FLCC)** holds substantial promise for enhancing vocational education and training in the maritime sector, addressing these challenges is vital for achieving its full potential. By overcoming these obstacles, the system can significantly contribute to the professional development of maritime specialists, equipping them with the necessary skills and adaptability for success in an increasingly globalized maritime industry.

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