The European Proceedings of
Social and Behavioural Sciences
EpSBS

www.europeanproceedings.com
e-ISSN: 2357-1330

DOI: 10.15405/epsbs.2024.10.44

SCTMG 2023
International Scientific Conference «Social and Cultural Transformations in the Context of Modern Globalism»

FORMATION OF FOREIGN LANGUAGE COMPETENCIES IN THE PROFESSIONAL TRAINING OF CADETS

Anna Popova (a)*, Hanifa Galieva (b), Svetlana Manetskaya (c)
*Corresponding author

(a) Department of Foreign Languages, Admiral F.F. Ushakov State Maritime University, 93, Lenin Ave., Novorossiysk, 353924, Russia, dmitrichenko78@list.ru
(b) Department of Foreign Languages, Admiral F.F. Ushakov State Maritime University, 93, Lenin Ave., Novorossiysk, 353924, Russia, hani-nov55@yandex.ru
(c) Department of Foreign Languages, Admiral F.F. Ushakov State Maritime University, 93, Lenin Ave., Novorossiysk, 353924, Russia, svetlanavm@list.ru

Abstract

The article deals with the necessity of foreign language skills of future maritime specialists, which is the main condition for their professionalism and relevance in the modern labor market. The article is an analysis of the formation of professional foreign language competencies with the use of simulators as an integral part of the general professional training of cadets in a maritime university. It indicates certain difficulties in the language training of students. Foreign language training in higher education is currently a nationwide problem, which requires a wide use of integrated learning and various forms of assessing the achievements of foreign language competencies. The aim of the study is to theoretically substantiate and experimentally confirm the positive results of foreign language competence formation in integrated foreign language teaching with the use of simulators. The research methods in the article are theoretical (analysis of legislative and regulatory documents in higher professional education, theoretical generalization); empirical (testing, analysis of UMKD on the experimental course, pedagogical experiment, observation); statistical (mathematical processing of the results obtained during the research). All the applied methods were used variably in interrelation in order to ensure the objectivity of facts and conclusions. As a result, the effectiveness of simulators application in the process of foreign language competence formation in the professional training of maritime university cadets is experimentally proved. And conclusions are drawn that foreign language competence includes receptive, productive and personal-action activity with the use of modern technical means of training..

Keywords: Competence, integration, formation, professional, simulators, technologies

https://doi.org/10.15405/epsbs.2024.10.44
Corresponding Author: Anna Popova
Selection and peer-review under responsibility of the Organizing Committee of the conference
eISSN: 2357-1330

1. Introduction

Scientific works of many authors are devoted to the issues of professional competence formation. For example, V. F. Tenishcheva considers the structure of professional competence of a future specialist in the conditions of foreign language communication on the basis of integrated training (Manetskaya, 2009). I. I. Makashina developed a model of the polyprofile training of managers of merchant marine fleet, including a number of technological components that allow predicting and implementing polyprofile training (Gruzdev et al., 2017). Aleshchanova and Frolova (2010) suggest using the methodology of teaching text referencing at different stages of foreign language competence formation.

Despite the fact that scientific studies of foreign language competence formation are widely presented, the issues of application of modern training simulators in the formation of professional competences are not sufficiently highlighted (Dokuchayeva et al., 2024; Tang & Yang, 2024).

2. Problem Statement

At present, due to the transition to market economy, the employment of graduates of transport universities causes great difficulties. In the modern labor market, regulated by economic reforms, there is a demand only for highly qualified specialists in all branches of production, including maritime transport. Fleet modernization at the current stage of its development leads to a significant reduction in the number of seafarers facing the issue of further employment (Lipich & Balahura, 2024; Regnerová et al., 2024; Shumilina & Antsiferova, 2024). Due to the fact that the competitiveness in the international market of transport services has increased, it is necessary to preserve qualified personnel, maritime traditions to create favorable conditions in the sphere of employment of maritime specialists not only in the socio-professional environment, but also in the international community.

Consequently, the foreign language training of cadets at a maritime university requires special attention, as only a graduate with knowledge of professional maritime English can be a competitive specialist. The professional training of cadets at a maritime university is carried out in strict compliance with the provisions of the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers (hereinafter referred to as the STCW). The STCW-95 Convention is aimed at higher requirements for the level of competence of specialists, including foreign language competence.

The aim of the study is to theoretically substantiate and experimentally confirm the effectiveness of integrated classes including business games, case-study with the use of simulators in the formation of foreign language competencies of students (Ahmad et al., 2024; Singh et al., 2024; Waite, 2024).

Based on the research objective, the following tasks are derived:

1. To clarify the essence of the main concepts (foreign language competence, integrated learning, teaching and learning technologies), their structure, functions.

2. To perform theoretical analysis of scientific literature on the problem under study.

3. To verify by experimental means the effectiveness of the application of integrated training with the use of simulators for the formation of foreign language competencies.

Foreign language competence is a combination of linguistic, sociolinguistic and subject competences in foreign language teaching. Linguistic competence is the knowledge and mastery of

https://doi.org/10.15405/epsbs.2024.10.44
Corresponding Author: Anna Popova
Selection and peer-review under responsibility of the Organizing Committee of the conference
eISSN: 2357-1330

speech units, designed in accordance with grammatical norms, with the help of which a competent professional speech in a foreign language is built. Sociolinguistic competence is the use of linguistic forms and their transformation in order to carry out activities to solve cognitive problems and achieve the goals set by maritime specialists in professional communication in a foreign language. Subject competence is focused on the content of students' statements on professional topics according to the training programs.

Language skills of cadets are formed in the educational process, as well as in the mode of real communication in a foreign language (swimming practice), due to the creation of sustainable motivation in the active professional activity of cadets and situational correlation of speech, which contributes to a fairly rapid transition to untrained speech (Prudnikova, 2006).

Therefore, the solution of problem-situational tasks in English laboratory classes is performed by cadets with the support of communicative tasks that stimulate foreign-language thinking and interactivity of participants of professional communication. Modern information and telecommunication technologies allow students to successfully perform presentations of a professional orientation in a foreign language, following the initial problem, setting the goal, planning the final result and obtaining an assessment of the achieved.

The process of learning a foreign language is used as a means of preparation for professional activity, and professional foreign language competences are formed (Galieva et al., 2019). The content of the studied specialty is aimed in strict accordance with the Federal State Educational Standards of Higher Education to maximize the potential of a foreign language.

For this purpose, Admiral F. F. Ushakov State Maritime University actively conducts integrated classes, which provide the formation of a holistic picture of the world, promote the understanding of significant relationships, phenomena and processes. Integrated classes allow one to qualitatively prepare specialists of maritime professions, which are in demand in the modern labor market, and can also contribute to the professional development of personality in the learning process (Tenishcheva & Avanesova, 2013).

In the course of integrated classes, students solve problem-situational tasks, which stimulate their thinking and improve the process of interaction between participants. During training sessions, while solving problem-situational tasks, cadets can perform individual and group tasks of a project nature, including the use of Internet technologies.

The program "Maritime Technical English" is based on the State Standard of Higher Professional Education and the Sample Program of the discipline "Foreign Language" for educational institutions of higher professional education, as well as IMO Model Course 3.17: Maritime English, Convention I-BO – 1.1.7 (TABLE A-II/I) 1978 as amended (STCW – 78 as amended), SOLAS – 74 Chapter 5. The program provides a list of requirements reflecting the specifics of teaching a professional foreign language, as well as the level of practical command of a spoken foreign language.

Based on the decision of the Academic Council of Admiral F.F. Ushakov State Maritime University, the University conducts the training of ship engineers (watch navigators) in foreign language as a part of the general task of training highly qualified personnel of the merchant marine fleet. Special attention is paid to mastering the sub-language of the ship-engineering specialty and preparation for

https://doi.org/10.15405/epsbs.2024.10.44
Corresponding Author: Anna Popova
Selection and peer-review under responsibility of the Organizing Committee of the conference
eISSN: 2357-1330

speech activity in English in conditions as close as possible to the real one. Consequently, integrated classes on the topics Passage Planning, Simulator Training, etc. are harmoniously interconnected in the programs of the main disciplines.

Business games are actively used in the process of teaching a foreign language to future maritime specialists. Business games allow combining the learning situation with real professional communication, creating conditions for communication. Motivation of communication arises with the help of various game stimuli, for example, training simulators. Favorable topics for business games are "Radio communication during navigation in confined waters to ensure safety of navigation and prevention of ship collision"; "Radio communication during search and rescue using GMDSS (GMDSS Procedures)". Other topics are "Medical assistance"; "Work with passengers (taking care of passengers, informing about safety rules and behavior on the ship, notification of an emergency situation via loudspeaker system, evacuation and dinghy drills, taking care of passengers in an emergency situation)", etc.

Due to the changes introduced in the educational standard, nowadays a large number of hours are allocated for independent work of students. It is possible to compensate for the lack of classroom hours by applying various teaching methods, including the case-study method, which is widely used in teaching a foreign language (Galieva et al., 2019). The essence of the case-study method is that the teacher gives students a specific situation, which they should not only analyze, but also propose the most effective ways to solve it. The variants of solutions can be diverse; the cadets have the opportunity to choose the most optimal option. The case-study method allows students to apply the theoretical knowledge in practice, as well as to demonstrate their skills. For example, when studying the topic "Conducting radio conversations when sailing in confined waters to ensure safety of navigation and prevention of ship collision", the teacher can offer the cadets a specific situation. It may arise between a ship sailing in confined waters and coastal services, as well as ships in the area. The task of the cadets is to analyze the situation and take the necessary actions based on the theoretical knowledge acquired earlier, as well as to demonstrate the skills of speaking and listening in professionally oriented situations during radar check of a vessel in confined waters (Popova & Galieva, 2017).

When forming foreign language competencies at Admiral F.F. Ushakov State Maritime University, computer simulators are effectively used, which allow one to model situations that are as close as possible to real navigation conditions. It should be noted that this approach is fully related to safety of navigation. Classes on simulators (navigation simulator NTPro 5000) require from cadets not only a high level of training in English, but also a high level of knowledge and skills in the specialty. This simulator allows training watch officers, captains, pilots of merchant fleet. The simulator meets all requirements of the STCW-78 Convention as amended, as well as IMO requirements.

Formation of foreign language competencies is a process of determining the achievement of the level of foreign language proficiency taking into account certain criteria. They involve a clear understanding of the essence and role of future professional activity with the formation of high interest and motivation for it; skills and abilities of active communication in professional and public spheres of activity using a foreign language as a means of communication; maintenance of operational documentation in English; mastery of standard IMO phrases (Int).

https://doi.org/10.15405/epsbs.2024.10.44
Corresponding Author: Anna Popova
Selection and peer-review under responsibility of the Organizing Committee of the conference
eISSN: 2357-1330

We assess competencies using various means of control: computer programs, testing on the studied topics, essay writing, presentations, interviews. The control of learning activities should be carried out throughout the whole process of cadets' training and include a full variety of forms of verification, both written and oral. In the course of intermediate and final control, the tasks selected by us were offered based on the types of speech activity. The first is receptive, i.e. perception and the understanding of authentic material in oral and written form (true/false, two-way translation, multiple-choice, matching, collocation tests, listening and filing in the gaps). The second is productive, i.e. inducement to speech. i.e. inducing speech messages in oral and written form (warm-ups, explanation of the terms, listen and express the main idea). The third is personality-oriented, i.e. self-organization and self-control, which lead to self-evaluation and achievement of predictable results (essay, summary, student survey, discussion, free writing).

Tasks for testing receptive and productive types of speech activity are the most common among teachers, as they occupy a relatively small amount of time in the classroom and make it possible to qualitatively assess the level of foreign language competence formation. Tasks for personally-oriented speech activity stimulate active participation of cadets in the evaluation process (self-evaluation, self-evaluation), increase personal significance and emphasize the use of a foreign language in the professional sphere (Popova & Galieva, 2017).

To confirm the effectiveness of using integrated classes in teaching a foreign language, an experiment was conducted on the basis of Admiral F.F. Ushakov State Maritime University. Four study groups (84 cadets) of the 4th year took part in the experiment, since simulator training according to the curriculum is conducted in the 4th year. Two groups (42 cadets) were experimental; two groups (42 cadets) were control. Before the beginning of the experiment, all groups undergone computer testing, including lexico-grammatical tasks, IMO phrases, commands, professional terms, which allowed one to identify the level of performance and quality of knowledge of students. The results were as follows: the achievement in the control group was 86%; the quality of knowledge was 58%. In the experimental group, the achievement was 88%; the quality of knowledge was 56%. The criteria for evaluation were the level of knowledge, skills and abilities of cadets, namely, knowledge of IMO phrases, commands, professional terminology, ability to understand professional texts, to react adequately and make correct decisions in professional-communication situations. Further, during two academic semesters, the control group studied 144 hours according to the curriculum, 88 hours of which were spent in class, 10 hours of which were spent on the simulator. The experimental group studied 144 hours, 88 hours of which were spent on integrated training, 60 hours were spent on the simulator. During the work, the topics of Passage Planning, Radio communication when navigating in confined waters to ensure safety of navigation and prevention of collision of ships, Radio communication during search and rescue were studied. At the end of two semesters, we conducted control computer testing. The results showed that in the control group and achievement and quality of knowledge remained almost at the same level, that is, achievement was 85%, the quality of knowledge was 58%. In the experimental group, the quality of knowledge was 96%; the achievement was 72%. In addition, there was increased motivation of students to gain knowledge, as evidenced by 100% attendance.

https://doi.org/10.15405/epsbs.2024.10.44
Corresponding Author: Anna Popova
Selection and peer-review under responsibility of the Organizing Committee of the conference
eISSN: 2357-1330

The obtained data allow us to assert that modern training equipment in interaction with students, using selected forms, contribute to the formation of foreign language competencies.

3. Research Questions

The training of ship engineers (watch navigators) in foreign language as a part of the general task of training highly qualified personnel of the merchant marine fleet. The mastering the sub-language of the ship-engineering specialty and preparation for speech activity in English in conditions as close as possible to the real one. The integrated classes on the professional topics are harmoniously interconnected in the programs of the main disciplines.

4. Purpose of the Study

To assess competencies using various means of control: computer programs, testing on the studied topics, essay writing, presentations, interviews. To carry out the control of learning activities throughout the whole process of cadets' training and include a full variety of forms of verification, both written and oral. In the course of intermediate and final control, to select the tasks based on the types of speech activity. To confirm the effectiveness of using integrated classes in teaching a foreign language, to conduct an experiment on the basis of Admiral F.F. Ushakov State Maritime University. To assert that modern training equipment in interaction with students, using selected forms, contribute to the formation of foreign language competencies.

5. Research Methods

Based on the above, the following conclusions can be drawn:

i. foreign language competence is a multifaceted learning activity of naval cadets, including receptive, productive and personal-acting;
ii. formation of foreign language competences is a rather complex process of teaching a foreign language, which is currently impossible without the use of information, computer and teaching and learning technologies;
iii. professional training of highly qualified maritime specialists is an integrated foreign language training with the use of modern simulators in strict compliance with the requirements of the international convention STCW and state standards of higher education.

6. Findings

Summarizing the results of recent pedagogical research on the problem of forming foreign language competencies, we can say that many scientists (V.A. Bolotov, A.N. Dakhin, I.S. Rozov, V.F. Spiridonov) recognize the feasibility of using an interactive teaching of a foreign language, the introduction of pedagogical technologies in the learning process (V.P. Bespalco, B.S. Gershunsky, G.A. Kitaygorodskaya). They consider the interactive method of teaching in the framework of multilateral communication between groups of students and teachers (V.A. Vakulenko, .B. Polyakova, T. Rybakova,

etc.). Pedagogical technology with the use of the interactive method, according to N.N. Prudnikova, contributes to the expansion of students' personal potential, providing greater opportunities in learning a foreign language with the rational use of time in classes (Makashina, 2006).

Hence, the theory and practice of formation of foreign language competences are discussed in many scientific works confirming the effectiveness of the application of interactive method of teaching a foreign language. However, despite the theoretical and practical results of previous studies, it should be noted that the problem of formation of foreign language competences in professional training with the use of simulators is insufficiently studied and experimentally confirmed. Therefore, the results of our research (academic performance increased by 8%, quality of knowledge improved by 16%, motivation increased as attendance was 100%) are undeniable proof of the effectiveness of modern simulators as an integral part of the formation of foreign language competence.

7. Conclusion

The presented study attempts to solve the issue of foreign language competence formation in professional training. In the process of the research the following was performed and obtained:

i. the effectiveness of integrated classes with the use of modern simulators was theoretically substantiated and experimentally proved;
ii. the essence and significance of such concepts as: foreign language competence, integrated learning, teaching and learning technologies, were discovered;
iii. theoretical analysis of scientific literature on the problem under study was provided;
iv. the empirical study proving the expediency of using simulators in teaching a professional foreign language was conducted. The validity of the experimental results is confirmed by the data obtained before and after the experiment.

This study is not an exhaustive solution to this problem and can be continued by developing working programs, special courses, materials for practical and laboratory classes on the basis of integrated learning.

References

Ahmad, S. S., Almobaideen, W., Abdelhakim, M. N., & Rani, R. (2024). Artificial intelligence-enabled cutting-edge technologies: *Innovation for Industry 5.0, Healthcare 5.0, and Society 5.0. Converging Pharmacy Science and Engineering in Computational Drug Discovery, 12*, 140–158.

Aleshchanova, I. V., & Frolova, N. A. (2010). Formation of foreign language communicative competence of students of technical university. *Modern problem of Science and Education, 4,* 45-51.

Dokuchayeva, N., Ivanova, S., Azimbayeva, Z., Ten, A., & Baimamyrov, S. (2024). Value-Based Perspectives on the Teacher's Role in Modern Education. *Journal of Educational and Social Research, 14*(4), 60. https://doi.org/10.36941/jesr-2024-0085

Galieva, H. S., Popova, A. V., & Manetskaya, S. V. (2019). Distance learning methods in the organization of independent work of cadets. *Bull. of Maikop State Technol. Univ*ersity*, 5,* 82-91.

Gruzdev, D. Y., Gruzdeva, L. K., & Avanesova, T. P. (2017). Translation into native language with electronic corpus of texts. *Vestnik of Moscow University Series, 1*, 55–73.

Lipich, L., & Balahura, O. (2024). Consumers of tourist services in the subject field of sociology. *E3S Web of Conferences, 538*, 05010. https://doi.org/10.1051/e3sconf/202453805010

Makashina, I. I. (2006). *Means of training in professional training of managers of merchant marine fleet.* RIO MGA named after Adm F.F. Ushakov Publ. house.

Manetskaya, S. V. (2009). Language competence in the content of military education in a civilian university. *Higher Ed. Today, 4*, 11-16.

Popova, A. V., & Galieva, H. S. (2017). Information and computer technologies in foreign language training of cadets as a factor of successful employment. *Journal of Science Publication Discussion, 5*(79), 38-46.

Prudnikova, N. N. (2006). Formation of foreign language competence of students in the context of the complex approach to the interactive method. *Bulletin of N.I. Vavilov Saratov State Agrarian University, 5*, 127–131.

Regnerová, O., Chelombitko, T., Rakityanska, L., Zaplatynska, A., Sizhuk, I., Bondar, S., & Derbak, O. (2024). Using music in ESG education. *E3S Web of Conferences, 538*, 05006. https://doi.org/10.1051/e3sconf/202453805006

Shumilina, A., & Antsiferova, N. (2024). Environmental legal culture legislative consolidation methodology in the Russian Federation. *BIO Web of Conferences, 116*, 03028. https://doi.org/10.1051/bioconf/202411603028

Singh, M., Joshi, M., Tyagi, K. D., & Tyagi, V. B. (2024). Future Professions in Agriculture, Medicine, Education, Fitness, Research and Development, Transport, and Communication. *Topics in Artificial Intelligence Applied to Industry 4.0*, 181-202. https://doi.org/10.1002/9781394216147.ch10

Tang, L., & Yang, S. (2024). Improving Social Civilization. New Progress in Research on Perspective. *Ethics in Progress, 15*(1), 95–110.

Tenishcheva, V. F., & Avanesova, T. P. (2013). *Formation of professional competence of marine specialists in situations of foreign language communication with the help of computer means*. Dva Komsomoltsa.

Waite, L. (2024). Global human exploitation: Trafficking, forced labour, and modern slavery. *The Companion to Development Studies, 12*, 414–418.