

**INTERACTIVE COURSE “MARITIME ENGLISH”
IN THE PROFESSIONAL TRAINING OF FUTURE MARINERS**

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Abstract. The article discusses the experience of usage of the virtual learning environment MOODLE in Maritime English studying while the training of students of marine specialties. The subject of the supplement is the formulary of the in-service compulsory competence of future mariners. Disclosing the possibilities of a foreign language interactive learning, researchers emphasize the increased need for the application of a variety of types and forms of e-education. The process of creating an electronic training course using the capabilities of the Learning Platform management system MOODLE (Modular Object-Oriented Dynamic Learning Environment) is described. LMS (Learning Management System) MOODLE is popular among teachers around the world as a means of creating dynamic websites for students enrolled in a variety of programs. Nowadays LMS MOODLE can be regarded as an effective way of teaching in higher educational institutions, that’s why the authors describe the key advantages of introducing the electronic courses created in this LMS in the academic process of the high educational establishment (Kherson State Maritime Academy in Ukraine). New innovative e-learning capabilities in a specialized virtual environment in the future can significantly improve the efficiency and quality of Ukrainian maritime education. In the context of increasing the requirements of the modern labor market to the professional training of graduates of higher educational institutions on the possession of English and the inadequate usage of the possibility of distance learning systems and mobile devices, there is a need to

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improve the quality of professional training of marine specialists by updating the technology of professional education and the transition from outdated forms of training to progressive technologies and models.

Usage of LMS MOODLE enables you to increase the efficiency of the learning process of a foreign language in the high educational establishment in a limited number of auditorium hours. This system provides wide opportunities for communication and interaction between the teacher and students for jointly solving educational tasks, allows creating conditions for the organization of active learning taking into account the personal characteristics of each participant of e-course, as well as provides an opportunity to implement the content of the training by providing students with an extensive interactive educational and methodological resource base.

The article presents the results of the practical usage of MOODLE system in the process of teaching English language for students of marine specialties in KSMA. Electronic educational and methodical complexes are being developed in accordance with the requirements of the 78/105 Model Course and IMO (International Maritime Organization) Model Course 3.17 Maritime English for the implementation of Competency and Communicative Approaches. The advantages of distance education with usage of computer technologies are noted. Usage of proposed forms and methods of studying English contributes to the qualitative and effective preparation of future mariners for professional-oriented communication, to overcome interpersonal barriers of communication and to create a harmonious environment during long voyages.

The authors make the conclusions that in the conditions of development of the newest technologies the most suitable environment for the formation of professional foreign language competency is the system of distance learning, integrated into the traditional system of professional training of maritime higher educational institutions. The electronic course in LMS MOODLE has an educational potential as an effective means for forming the foreign language competency of specialists in the maritime industry. Interactive exercises of the course can be used as part of the system of formation of foreign professional competence of future marine specialists. The perspective direction of development determines the search and development of foreign language teaching methods, which will allow to combine a real educational environment with a virtual educational space based on electronic educational courses.

1. Introduction

The last decades of human development are characterized by explosive growth of scientific evidence and inventions, development of technology accompanied with humanitarian crisis fuelled by growth of migration flows, borders visibility, the erosion of traditional until recently ethnics and whole nations ways of being. These new factors in the environment of human existence exacerbated the ethnic, religious, economic, cultural, ideological problems between peoples, separate religious groups, territorial communities and the problems of interaction and communication between individuals and groups of persons united on a certain grounds forced to coexist in a certain territory, carry out direct contact with public and production functions.

The global processes of integration and globalization which are nowadays typical for world economic space, contribute to the active development of the modern shipping industry and the preemptive employment of graduates of maritime educational establishments in mixed crews. Therefore, foreign-language training of future seafarers as one of the most important components of their professional activity becomes of special significance. These processes actualize the problem of improving the quality of higher maritime education, which is characterized not only by the amount of knowledge in the specialty, but also the ability of future graduates to professionally oriented communication in a foreign language.

The problem of effective formation of professional English communicative competency as a factor of the competitive advantages of maritime college graduates focuses on searching, substantiating, selecting, developing and introducing into the system of professional future seamen training modern high-performance pedagogical technologies, in particular, interactive, suitable for forming graduates of maritime educational establishments as integral parts of their professional training, one of which is the professional English communicative competence.

International regulations (e.g. Standards of training, certification and watch keeping of future seafarers (STCW), Safety of Life at sea (SOLAS)) declare foreign language communication competence as a compulsory basic component of the shipping safety management, which, in turn, has a stimulating effect on the strengthening of the requirements for professional foreign language training of future mariners.

Thus, it is traced, on the one hand, by the ever-increasing level of requirements for the English professional training of future seafarers, on

the other hand, the diversity of pedagogical technologies and teaching aids potentially suitable for solving the problem of improving the quality of the formation of professional English communicative competence.

Therefore, the problem of developing, creating, implementing and applying in the educational process of a professionally-oriented interactive English language course is expedient, timely and relevant.

2. Analysis of recent research and publications

Requirements for possession of the international standard language (English) are provided in the international maritime documents regulating the training of mariners, e.g. in the 78/95 STCW and International Maritime Organization (IMO) Model Course 3.17 Maritime English. In Ukraine, the state control over the qualification and educational compliance of marine specialists is carried out by the Inspection on the training and certification of seafarers of Ukrainian Infrastructure Ministry. All this determines the goals and objectives of foreign language training for marine higher education institutions, influencing the choice of effective and modern teaching technologies.

Specialized maritime English isn't only course unit but also becomes means of professional communication, a component of professional training along with special subjects and a sign of professionalism [1].

In the process of analyzing the current state of professional mariners' training, we identified the following contradictions:

- raising of the modern labor market's requirements to the professional training of higher educational establishments graduates in relation to English proficiency;
- the presence of a large number of students in maritime practice, voyages, which causes the unevenness of the educational process, the lack of access to materials and sources of educational information;
- availability of unlimited number of professionally-oriented information in a foreign language of the maritime direction;
- insufficient usage of the possibility of distance learning systems and mobile devices as a means of improving the quality of foreign language training in maritime higher education institutions, resulting in a lack of flexibility and instant access to information.

We think that one way to solve these contradictions is to create a distance learning course for specialized English in course management system.

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Analyzing existing distance learning management systems (LMS): Google Classroom, iSpring, Collaborator, Canvas, researchers highlight the following benefits of Modular Object-Oriented Dynamic Learning Environment (MOODLE):

1. open source platform accessibility, allowing you to modify and add it;
2. its constant updating, which makes it possible to use the latest developments in the study of English and integrate them into an electronic course;
3. integration with websites that support the usage of Sharable Content Object Reference Model (SCORM) format, which makes it possible to download, use and evaluate such tasks in MOODLE;
4. usage of the mobile application for Android and iPhone Operational System (iOS), which makes it possible to access the materials at any time and anywhere, and enables usage of materials even without connecting to the Internet, offline.

By virtue of its nature, virtual environment MOODLE is interactive one and can greatly increase the degree of student learning, because it makes the process more interesting and dynamic [2].

Consequently, in our opinion, the development and implementation of an electronic course in LMS MOODLE using interactive technologies is potentially capable of effectively addressing the above-mentioned contradictions.

Nowadays there is a large number of studies devoted to the analysis of the effectiveness of the usage of traditional and innovative methods of teaching foreign language in higher education institutions. Problems of professional orientation of language training of future mariners were considered by S. Barsuk, V. Smelikova, V. Zikova, V. Kudryavtseva, L. Novik.

The questions of information and communications technologies usage in the educational process in the study of a foreign language, namely the development of electronic courses in LMS MOODLE, was considered in the studies of M. Sherman, V. Chernikov, I. Rimanov (for students of technical sciences), T. Bakusashova, A. Khusainova (for students of medical specialties), O. Kolesova (for students of technical specialties).

However, we did not find out as a result of the analysis of the scientific work researchers who studied the introduction of interactive courses in LMS MOODLE for students of higher marine educational institutions.

The purpose of our research is to develop the structure and content of the author's course “Maritime English”, its software and hardware implementation in LMS MOODLE, taking into account the following requirements:

- 1) structuring according to STCW requirements;
- 2) presentation of information in the form of communicative and interactive tasks;
- 3) ensuring constant access to the materials of the course from any place and at convenient for the student time;
- 4) usage of tasks that immerse students into real-life situations that are determined by a competency approach.

Achievement of our goal is possible in case of solving the following tasks:

1. to characterize and select interactive technologies in LMS MOODLE in accordance with the tasks of professional training of future seafarers and the peculiarities of the educational process in the conditions of system information of professional education;

2. to determine pedagogical purposes of using specially selected interactive technologies suitable for improving the quality of teaching and stimulating students' motivation in learning English;

3. to identify the main directions of improving of future seamen professional training through usage of interactive technologies in an electronic course.

The most commonly used elements are forums, quizzes, ability to embed video and audio materials, multimedia presentations etc. [3,4,5].

The main advantages of an e-course that distinguish it from traditional teaching are following:

– possibility of interactive interaction of all subjects of the educational process;

– infinite possibilities for integrating the course with external educational resources;

– possibility to use all kinds of multimedia content in the educational process (animations, audio, video etc.);

– clear planning of the learning process and course management at the level of individual groups;

– a wide range of interactive tasks for self-control.

Scientists of International Scientific conference on information technology and data related research 2014 (V. Bošković, T. Gajić, I. Tomić) give an analysis of MOODLE usage when studying at university and note that the idea of LMS or virtual class has a great similarity to the real class, which enables students to communicate with teachers. The following benefits of

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electronic courses in studying English are noted: additional time to consider options for answers in discussions, anonymity in surveys, unlimited time zones and cost effectiveness [6].

Among negative moments of MOODLE usage are lack of qualification of teachers, lack of English for special purpose materials online, lack of technical equipment, possibility of real communication with teacher. Thus, an electronic course can be used not as a basic teaching method, but as an additional tool for learning English.

Relying on the fact that all researchers prove that LMS MOODLE can practice such speech skills as speaking, listening, writing and reading, and based on the information provided in the professional sources on the subject matter under consideration and the analysis we have made of the individual components of the system the professional training of future mariners we consider the most suitable for the tasks of professional training such interactive technologies as gamification, adaptive testing, storytelling, communication using chats and forums.

In the development of our e-course, the distribution of content has been carried out according to the following modules: *content* (material for study, questions, assignments, tests, etc.); *meta-information* (hyperlinks to both local and global resources); *communicative* (e-mail, forum, chat, blog); *demonstration* (group projects of students, personal pages of students etc.); *evaluation* [6].

3. Examples of activities and resources in “Marine English” course

Since 2008, at the initiative of the Marlow Navigating Crewing Company, which is the basic industrial partner of Kherson State Maritime Academy (KSMA), the introduction of a communicative approach to English language classes started in Academy on the basis of Model Course 3.17 Maritime English, approved by the International Maritime Organization and recommended to use in maritime educational establishments of the world.

The communicative approach to teaching English is also recommended to all maritime institutions of the world by the International Maritime Organization in the Model Course 3.17 “Maritime English”. The ultimate goal of the communicative approach is learning the language in a way that would develop communicative competence.

Today, in KSMA, the process of integrating the competency approach in the communicative teaching of English into a professional direction continues. Organization of training has its own characteristics:

- groups of students are created by the level of proficiency in English for the more effective development of communicative competencies;
- competencies that students need to master as a result of studying each topical module are defined in education programs;
- in each module of the training manuals developed by the teachers of the departments, a list of communicative competences and basic elements of the language system are presented – lexical units and grammatical structures which students have to master for the development of these communicative competences, as well as questions that together form the contents of the final competence within the topical module;
- teachers use one of the three English language courses structures depending on the language and professional experience of students: PPP (Presentation, Practice, Production) for 1-2 courses, ESA (Engage, Study, activate) for 3-4 courses, Patchwork for 5-6 courses;
- final session is conducted using simulation tasks (role games, project development, etc.), in which the students are put in conditional real situations, where they must apply acquired communicative competencies.

All this was taken into account when creating the electronic course and was intended to supplement the teaching system, to create mixed learning.

To create an individual dynamic course “Maritime English” in a modular learning environment, many facilities for the structure of the course were used. Maritime content is developed directly by the teachers and loaded into each course object (e.g. tests, compatible activities: chat, forum, glossaries, etc.). Here are examples of using interactive course tools, distributed by modules.

3.1 Content module

The content module contains a syllabus, a calendar integrated into the Google Calendar app that always helps with scheduling training sessions, deadlines, and other activities, and controls your work with reminders in the mobile app.

Scoreboard. To find the best student and number of earned points, the modular learning environment has grade book. In “Maritime English” course, several groups are trained, each group has its group leader, who has the rights of an assistant, who is able to check the progress of all students in the course, the number of their total points, the finished and not finished activities.

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Moodle KSMA		English (en) ▾
Surname	First name	Σ Course total ▲ ✎
	Станіслав Криковець	26.69
	Віталій Загнибіда	26.63
	Денис Дубіковський	26.60
	Ярослав Коваленко	26.03
	Микита Кононов	25.95
	Олександр Кармаліта	25.84

Figure 1.1. “Maritime English” course scoreboard

Number of badges available: 8

Add a new badge

Name ▾	Badge status ▲ ▾	Criteria	Recipients	Actions
Crew and its tasks expert	Available to users	• Awarded by: Teacher	70	
Emergencies expert	Available to users	• Awarded by ANY of: Manager, Teacher	37	
Firefighting expert	Available to users	• Awarded by: Teacher	30	
First aid on board expert	Available to users	• Awarded by ANY of: Manager, Teacher	7	
Maritime cargo expert	Available to users	• Awarded by: Teacher	0	
MC expert	Available to users	• Awarded by ANY of: Manager, Teacher	3	
Personal	Not available to	Criteria for this badge have not been set up yet.	0	

Figure 1.2. Digital system of maritime badges

Badges. Another tool that helps to motivate students (except points) is the electronic system of honors, which are developed according to maritime topics taught in the course. Badge is a digital certificate or diploma that appears on a user's page, identifies and shows the skills, knowledge, etc. of the participant. This rewards system helps to increase the motivation of students, and provides a course on the elements of the computer game, which is so much enjoyed by modern young people.

3.2 Meta-information module

This module contains a glossary, which is developed together with students. The instructor develops search terms on the use of marine terminology, which solves the problem of constant reference to untested resources, selects reliable sites and includes them in the interactive work on creating a glossary.

This activity allows participants to create and edit a list of definitions, such as a dictionary. Each course module has its own glossary, where unknown maritime terms are added by students. To enhance the knowledge and study of the maritime English, the glossary (definitions, synonyms, antonyms, drawings, videos, etc.) allows the user to freely

Special | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | ALL

A

Abandon

To leave (e.g. a ship).



✕

Alarm

sound signal on board a ship to notify about emergency situation



Figure 2.1. Example of Glossary in “Maritime English” course

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navigate the linguistic process, successfully master the marine vocabulary, effectively using glossary language in practical activities.

Virtual tour around ship. A virtual tour in our course is a visualization tool that allows you to organize a virtual journey around ship. Being an element of the module “Ship design”, this is the task, namely – to investigate all levels of the vessel and to schematically depict its superstructure. This activity allows you to get closer to the real working conditions of future seamen.



Figure 2.2. “Investigator virtual vessel tour” activity

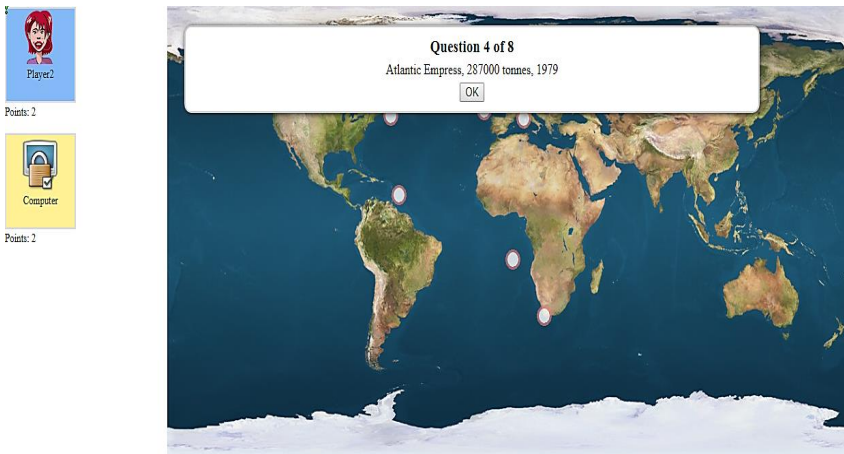


Figure 2.3. “Where were the worst oil spills?” activity

Storytelling. Another element of the Marine Environment topic is the “Mark Up on Google’s Largest Oil Spill” storytelling activity. After completing this task, the students should be able to tell about the marine environment with the causes and consequences of marine pollution.

3.3 Communicative module

Forum. While classroom communication during English double periods, it’s time to use real-time communication without communicative services. But the communicative services of mobile devices, which are already familiar to students, motivate them for further oral discussions. This is explained by the fact that in our time young people are accustomed to express their thoughts on forums, chats, social networks, using them through mobile devices.

So, it’s appropriate to start discussions during double periods in groups and then move them to the forum where records are exchanged. This procedure allows the teacher to control the entries in the group, and students are involved in the discussion without fear of writing something wrong, protecting their beliefs by expressing arguments.

Help each other forum

Separate groups












Discussion	Started by	Group	Replies
What parts of body do you know?	 Альона Юріівна Юрженко	K 225	0
What do you know?	 Альона Юріівна Юрженко	K 224	7
What external parts of body do you know?	 Альона Юріівна Юрженко	K 223	0
what are the internal body parts?	 Володимир Мельничук	K 225	41
MOB	 Іван Шерсток	K 225	13
How to prevent different emergencies situation on a board of ship?	 Віктор Терпичний	K 225	1
What are the causes for seafarers health problems ?	 Максим Бойко	K 225	10
Have you ever helped anyone who was injured?	 Віктор Малооский	K 225	7
How can I stop bleeding?	 Богдан Рибалко	K 224	3
Help! I have a nosebleed. How can I stop it?	 Владислав Тесля	K 224	0

Figure 3.1. List of forums discussions


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This activity allows students and teachers to exchange ideas, leave messages, or create their own questions, and it is interesting to note that it is possible to evaluate this activity automatically. For the correct answer or an interesting question, students receive points. Participants can attach a picture, video, or resource link to their post. The advantages of the forum can also include the following: the development of critical thinking, individual or group work, the ability for each participant to express their thoughts anywhere and at a convenient time for him, update his vocabulary, develop reading and writing skills, conduct discussions, etc.


 **How to prevent different emergencies situation on a board of ship?**
by [Биктор Термичий](#) - Monday, 26 February 2018, 12:01 PM

How to prevent different emergencies situation on a board of ship?

- 1)How to prevent icing?
- 2)How to prevent explosion?
- 3)How to prevent fire?
- 4)How to prevent leakage?
- 5)How to prevent collision?



[Permalink](#) | [Edit](#) | [Delete](#) | [Reply](#)

 **Re: How to prevent different emergencies situation on a board of ship?**
by [Иван Шепеток](#) - Monday, 26 February 2018, 6:12 PM

- 1) To my mind the design of ships, which operate in ice, must prevent the cooling system from becoming blocked by ice. As a general principle, winter cooling system should:
 - a) Maintain essential seawater by using inlets situated as low and as far aft as possible, near centerline.
 - b) Use sea boxes that have antifreeze characteristics




Figure 3.2. Example of forum discussion

3.4 Demonstration module

This module includes group projects of students, their personal pages, examples of best works of previous years, etc. One example of such works in the Maritime English course is the Task – activity that allows the teacher to assign tasks (for example, in the topic “Cargo Types” – in groups make Power Point Presentation, describing maritime

cargo and giving examples of one type of cargo), collect presentations and evaluate them.

Group work

In groups of three, make a Power Point Presentation about one type of maritime cargo:

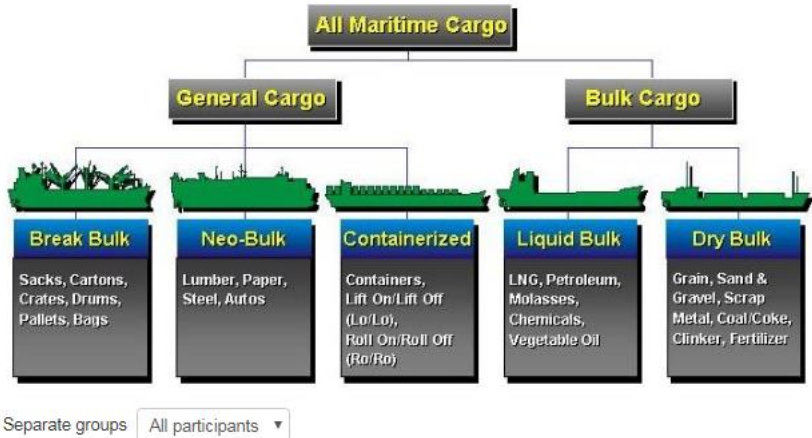


Figure 4. Example of group work task

Such tasks allow working individually, in pairs or groups. They enable students to demonstrate autonomy in planning, organizing and controlling their activities. The purpose of the task is to contribute to the formation of the system of knowledge and skills embodied in the final intellectual product, to promote autonomy, the ability to think logically, to receive and use information, to engage in planning, to develop literacy, etc.

3.5 Evaluation module

Gamification. The next element of the course, which helps to increase the interest of students in the training is Gamification (the presence of educational content, using elements similar to the games). Exercises that are presented in the form of games include the following: A puzzle (for example, group words / sentences / pictures, etc. according to the classification), Find a pair (match words and definitions / pictures / synonyms / antonyms, etc.), Chronological line (put in the correct order the words / sentences / actions

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etc.) Who wants to become a millionaire? (answer questions), Crossword, Hangman, Word Search, Horse Racing, etc. Almost all games support audio and video content, and some (for example, “Where is it? «) are related to Google Maps. Exercises presented in the form of games are added to the course using the SCORM package (a set of files that are packaged in accordance with an agreed standard for training objects). Marks for such games are counted in the grade report and affect the outcome of the course.

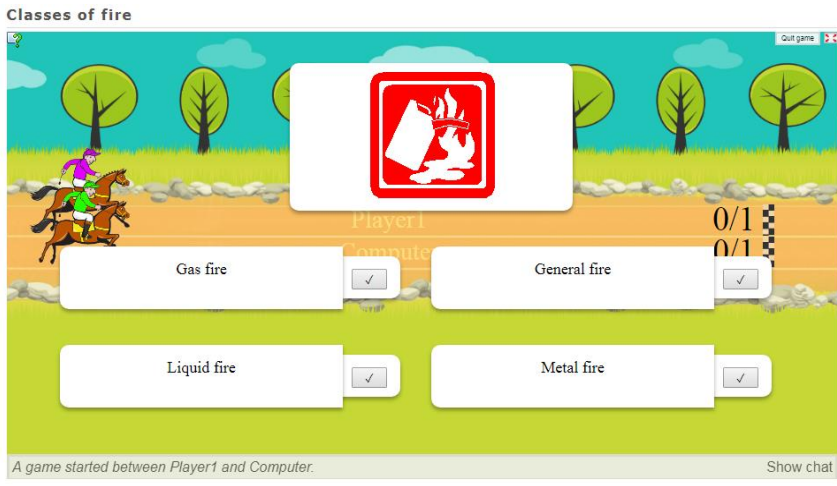


Figure 5.1. Example of a game-like exercise

Fire & The Fire Triangle

Watch the video and answer the question.



Which element is NOT a part of fire triangle?

Figure 5.2. Example of video content in the game-like activity

Adaptive tests. When testing students, there is a complexity regulation – the issues of such tests become easier or more difficult, depending on how well the student knows the subject of the test. If he answers correctly, questions become more difficult. If wrong, then returns to the beginning of the topic. Such tests can take place unlimited times, but correct answers are not displayed.

Choose correct statement about Life saving appliances.



- Life jacket is equipment used in emergency situation for group of people.
- Lifebuoy is group LSA used in case of men overboard.
- Life raft is group LSA used in case of emergency.
- Anti-exposure suit is used for two people on board a ship.

Submit

Figure 5.3. Question from adaptive test

Oh, no!

You're wrong.

Because *life jacket is used for one person only.*

Go back

Figure 5.4. Page from adaptive test

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If you do not answer correctly, then the next page will explain why this answer is incorrect and return to the first page of the test.

Such tests are well suited for self-training, participants see their mistakes, explain why their answers are true or wrong, etc.

4. Conclusions

In the conditions of the transformation of the traditional educational process with the help of information technologies in higher educational institutions, the search and development of teaching methods of a foreign language continues, which will allow to combine a real educational environment with a virtual educational space based on electronic educational courses.

Multivariate use of the didactic capabilities of information technology for teaching English in higher marine establishments is a necessity and time requirement.

As a result of our study the following conclusions were obtained:

1. The electronic course in LMS MOODLE has an educational potential as an effective means for forming the foreign language competence of specialists in the maritime industry. The systemic nature of a course based on the principles of a communicative-competent approach enables students to increase their own foreign language proficiency and develop foreign language competence. Interactive exercises bring students closer to real life communication in a foreign language in the absence of a natural linguistic environment.

2. Interactive course exercises can be used as part of a system of formation of foreign professional competence of future mariners.

3. The main objective of teaching foreign languages of future mariners is development and improvement of practical skills in English for the solution of professional problems, usage of oral communication for professional purpose. With the development of advanced technologies, the most suitable environment for the formation of professional foreign language competence is the distance learning system, integrated into the traditional system of professional training of marine higher education institutions.

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