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BOBRY SHEVA Natalia,

Ph.D in Pedagogy, Senior Lecturer of English
in Navigation Department,
Kherson State Maritime Academy, Ukraine
e-mail: natalyluchka@i.ua

E-LEARNING AS A TOOL FOR ASSESSMENT OF FUTURE NAVIGATORS` COMMUNICATIVE COMPETENCE

У статті описуються електронні курси, які можуть бути використані викладачами для оцінювання комунікативної компетентності майбутніх судноводіїв, в тому числі авторського курсу з основ полікультурної освіти. Автор виокремлює основні вимоги для об'єктивного оцінювання комунікативної компетентності майбутніх судноводіїв, спираючись на міжнародні морські документи.

***Ключові слова:** електронні курси; комунікативна компетентність; майбутні судноводії; оцінювання; англійська мова для морських спеціальностей; полікультурні проблеми; тестування.*

Introduction. Shipping is perhaps the most international of the entire world's great industries and some of the most dangerous. Safety of life at sea, the marine environment and over 80% of the world's trade depends on the professionalism and competence of seafarers. It has been reported that the over 80% of accident and incidents are due to human error According to IMO (2005), 80% of accidents at sea are caused by human error. One of main causes of accidents and incidents are due to poor standards of maritime English. The language of the sea is Maritime English and many ships, and to a lesser extent, ports, are manned by multinational crews. Hence, good communication in Maritime English is essential for creation and maintenance of effective working environments and safety of the crew, and generally safety at sea and at ports.

Also, it should be considered, that the severe shortages of personnel with sea going experience which is expected to get worse shortly, the need for the better qualified seafarers with enhanced English language communication skills is expected to become most important human element issue for shipping companies in the near future who are desperately seeking seafarers to run their vessels safely and efficiently.

Analysis of relevant researches. In Standard Training Certification Watchkeeping for Seafarers 1995 curriculum and now is amended to be STCW` 2010 (STCW 2010 Amendments), the future navigators are required to have good standard of English competences. Then, the STCW` 2010 curriculum also requires the students to have knowledge of written and spoken English that is adequate to understand chart, nautical publication, meteorological information, message concerning the ship's safety and operation, and adequate skill to communicate with other ship and coast station,

etc. The communications within the bridge team need to be understood properly. Communication among multilingual team members, and in particular with ratings, should be in a language that is common to all relevant bridge team members. This means that communicative competence assessment is truthfully necessary for them.

The problem of future navigators' communicative competence assessment with a help of E-learning is difficult ones to overcome. A number of foreign authors devoted their thesis to different aspects, which are connected to e-learning and competence-based assessment, such as J. Biggs paid attention to the assessing learning quality by reconciling institutional, staff and educational demands [1], K. Larsen researches evidence-based standard setting [2], R. Ziarati points out the importance of training and assessment under STCW [3], J. Horck makes an analysis of decision-making processes in multicultural maritime scenarios [4].

Purpose. To describe the main e-learning courses for the future navigators' communicative competence assessment, to define requirements for competence-based assessment of the future navigators' communicative competence regarding international maritime documents.

Main part. Assessment quality has been an important research topic for as long as CBE programs have existed. In 1976, John Harris and Stephen Keller outlined several key considerations in competency assessment and concluded that the major development effort in competency-based education should not lie in design of instructional materials but in design of appropriate performance assessments. Furthermore, institutions should not commit themselves to competency-based curricula unless they possess means to directly assess students' performance [2, p. 79].

Perhaps the most important step in assessment design is defining the competencies. As J. Horck has argued, competencies must be clearly defined and measurable [4, p. 15]. When developing competency assessments, there are two important stages. The first is assessment development and score validation. The second is determining how well a student must perform on the assessment in order to demonstrate competency.

In this context, J. Biggs points out, that the standards are expected to be recognised by international professional bodies and the licensing authorities. To ensure these developments are implemented effectively it is proposed:

- to develop supporting training programmes for the intended standards by formation of pilot groups initially in one of the partner countries and then re-run them and/or validate them in other partner countries,
- to establish a network of transnational partners to support the development of the project, to surpass excel the minimum of standard of maritime English set by IMO,
- to design a programme for the trainers and assessors development, and their certification, for application of the intended standards and subsequent tests, as well as for the internal assessment and verification process, in line with European vocational qualifications for Assessors and Verifiers,
- to facilitate secondment of trainers and assessors to partners' establishments on short assignments in order to familiarise the trainers and assessors with the necessary skills and good practice,
- to form a committee to monitor the progress and make the necessary changes when required, applying a quality manual instigated in the course of developing this project,
- to develop bridges for maritime personnel, through these standards so that they can take advantage of other programmes, some leading to higher vocational qualifications [1, p. 6].

The principles of competency based assessment, identified by R. Ziarati, are as follows:

- current (assessment should take place within a short time of learning);
- valid (all components that are to be assessment must be assessed. There must be sufficient evidence to ensure that the candidate meets the competency specified by the current standard. The candidate must not be asked to provide evidence for or be assessed against activities that are outside the scope of the unit standard.
- reliable (the assessment must be able to stand up to scrutiny. That is, other assessors should reach the same conclusion. A number of evidence-gathering methods can be used to ensure consistency);

- flexible (there is no single approach to competency based assessment. Evidence can be collected using different methods, at different times, under a variety of conditions. It must be responsive to the needs of the situation and the candidate);
- fair (Assessment must not discriminate against individuals or groups. Different people and different situations need different assessment methods and, where necessary, reasonable adjustments to meet individual requirements must be made);
- safe (All work and all assessment must comply with occupational health and safety requirements) [3].

If it concerns the future navigators' communicative competence, the quality of assessment directly correlates to the quality of learning. If there are clear learning objectives that are reflected in the assessment material then the student has a clear understanding of what they have to learn to what depth they have to understand what they are learning and how they are expected to demonstrate their knowledge and understanding. Indeed, the backwash effects of assessment arguably determine what is learned more than do formal curricula and teaching methods themselves.

In this context requirements of STCW Convention and Model Course 3.17 should be also complied with competence-based assessment. See the extract (Table 1) of the Maritime English curriculum for competence assessment.

Table 1

The Maritime English curriculum for competence assessment (extract)

Competence	Knowledge, understanding and proficiency	Topic according to STCW, Model Course	Methods of demonstrating competence	Criteria for evaluating competence
Master degree, 5th course				
Correspondence Production and understanding of written documents. Describe basic principles of marine insurance and chartering	Comprehend and respond to written and oral communication, analyze problems on board and suggest appropriate solutions in speech and writing, report recent events and notify parties	STCW A-II/2 Model Course 3.17 Core Section 2-8 and 2-11	-Written report and letters -oral and written communication about marine insurance and chartering	Uses adequate technical language in formal correspondence etc., able to draft messages, reports and letters required for ship business occasionally using glossaries and correspondence guidelines
Bachelor degree, 4th course				
Have the necessary vocabulary to ensure safe carriage of dangerous goods	Knowledge of international regulations, standards, codes and recommendations on the carriage of dangerous cargoes, including the International Maritime Dangerous goods Code and International Maritime Solid Bulk Cargoes Code	STCW A-II/2 Model Course 3.17 Core Section 2-12	oral and written communication about carriage of dangerous goods	Information on dangers, hazards and special requirements is recorded in a format suitable for easy reference in the event of an incident

Thus, competence-based e-learning programs will represent a valuable alternative to a future navigators' communicative competence assessment. We will describe more detailed some of them.

The MarTEL project reports on the significance of English as the working language of the international shipping industry and that the overall performance and safety of the international fleet

depends on the skill to apply it correctly. This project has taken note of the recent papers at the IMO MSC event (2006) concerning lack of standards or and appropriate underpinning knowledge and skill for maritime English. MarTEL aims to address major problems relating to competency in maritime English for the well-being of seafarers and those working in the shipping and maritime industries including ports. The project is concerned with the establishment of standards of Maritime English for all classes of seafarers and for those working at ports.

We would like to explain this matter with some example questions.

Sample question 1: Please give examples to the "Enclosed Spaces" aboard a ship.

- a) Ballast tanks
- b)
- c)
- d)

This is purely a professional question expressed in English. The test taker naturally will use his/her Maritime English first to understand the question and what an "enclosed space" means on board but then refer and heavily rely on his/her professional knowledge to give the correct answers which he/she will write down in English.

Sample question 2: Compliance audits in Technical Ship Management deals with:

- a) Ship Captain's certificates of safety.
- b) Ship Chief Engineer's record of planned maintenance.
- c) Ship's certificates of international statutory requirements.
- d) Crew's personal records of professional experience.
- e) Ship's records of dry dockings and repairs.

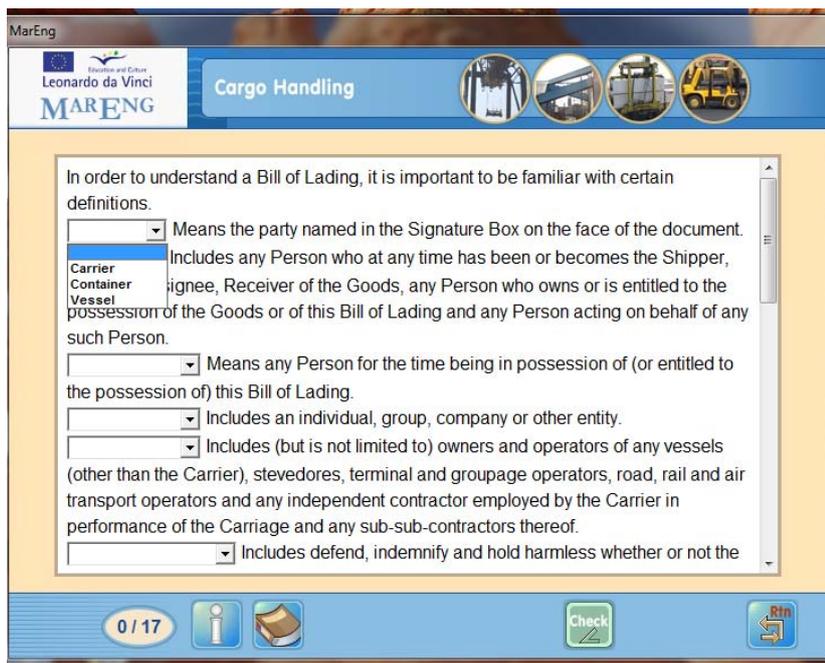
This is an example of a semi-professional or quasi-linguistic approach to MarE. Here the test taker must have a certain understanding what "Technical Ship Management" is but his Maritime English will help a great deal to choose the correct answer when he knows what "compliance audit" is.

Another E-learning program is the MarEng. This project concentrated on creating an innovative Web-based Maritime English Language Learning Tool.

As the maritime workers in particular are very mobile, it is also appropriate to find solutions to transfer the MarEng learning tool into the mobile learning environment. Therefore the project will transfer the MarEng maritime glossary into a form that can be utilised in a mobile phone even if the phone is out of network connection. All the project activities will be performed by a partner

group that represents several European Union countries some of the partners being the same as in the previous MarEng project. Partner' wide background in shipping industry and maritime English teaching gives a strong basis for the project success.

The original MarEng Learning Tool consists of intermediate and advanced level learning material on different maritime topics. Based on the feedback by different user groups all over the world, the usability of the original Tool has been improved. As a result of the MarEng Plus project, two new topics, Maritime Security and



Picture 1. Slide from MarEng

The Marine Environment, as well as elementary level learning material, a Teacher's manual and a mobile phone application of the glossary, have been added in the Tool. MarEng Plus provides more learning materials and all of the MarEng Plus material is English-English and is based on language used in actual simulators on board ships, in ports and elsewhere in the shipping chain. The new material will not only widen the overall user group but also motivate to learn maritime English in different levels. The purpose of training and course is to empower and improve the students Maritime in English so that they are able to compete with the graduates from the countries in order to seek and fulfill job opportunities at the international level. See Picture 1. Slide from MarEng where communicative competence is assessed concerning production and understanding of written documents.

It should be mentioned, that communicative competence of future maritime navigator includes not only language aspect, but also cultural. It should be pointed that cultural awareness lessons should be involved not only Professional English lessons, but other subjects too. Unfortunately, cultural awareness tests are not so popular as Maritime English ones. In this context, it was developed as author's E-learning course. The concept aim of it is to prepare the future maritime officers for effective professional work in multicultural environment. See one of these task in pic. 2.

3. Read the text and match the parts with their titles.

Like any other country, the Philippines has its own unique culture, traditions, and etiquette. Knowing and practicing these customs lets you become more familiar with the Filipino values. With these guidelines, you can make your communication and professional work more enjoyable and effective.

- A. Do show respect to anyone regardless of their social class or age and take time to smile.
- B. Do recognize that Filipinos tend to be indirect.
- C. Do show respect to their holidays.
- D. Do leave something on the table.
- E. Do show respect to their religion and superstitions.



Picture 2. Slide from author's E-learning course with cultural awareness tests

The course is presented by two modules: module 1 "Multicultural theory", which includes the history of multicultural development, multicultural communication etc., module 2 "Practice", which includes some basic recommendations and tasks on how to behave in mixed crew.

During the lessons teacher can use different methods and activities, such as true-false statements, project work, pair and group work, matching, discussions, case stories, mini-practices, electronic media (subject sampler, multimedia scrapbook, and web quest).

The example of mini-practice, which could be conducted, is following.

1) On the first stage the teacher asks to brainstorm the questions: What do you know about Filipino Society and Culture? Have you ever met Filipino seafarers during your voyages? Speak about Filipino features which are described in proverbs.

2) Next stage is to read the text about Filipino culture and to match the titles with the parts of this text. In addition, in groups cadets should compare Ukrainians and Filipinos.

3) The last stage shows the results of understanding the material. The teacher asks one pair to role-play the multicultural situation using new information. Other cadets should discuss the reasons of such behaviour of officers and to think about alternative. Also cadets can make a project or prepare practical requirements for dealing with this nationality.

During the lessons teacher should emphasize that it's only a very basic level introduction and is not meant to stereotype all crewmembers cadets may meet, because real communication skills could be taught only in real life. E-learning course will be an effective learning tool for cadets in their future professional work in multicultural environment.

Conclusions. So it should be noted that e-learning courses are the significant tools for the future navigators' communicative competence assessment. The content of E-learning courses was based on real-life scenarios on linguistic and cultural diversities with respect to effective communication in English among seafarers. Such courses will develop software based maritime communicative English educational multimedia in which the created learning scenarios will make use of proper learning approaches, online communication. This will be seamlessly interlinked with other forms of online educational content and be bundled and offered as complete online learning E-courses, It is significant to point out that the knowledge base of real scenarios is intended to be included in the curriculum of Maritime English in maritime education and training institutions.

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Ph.D in Pedagogy, Senior Teacher of English in Navigation Department,
Kherson State Maritime Academy, Ukraine
e-mail: natalyluchka@i.ua

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Abstract. *Introduction.* The shipping industry has become more and more demanding as far as the communicative competence is concerned. This is due to the fact that most merchant ships are owned by foreign companies and manned by multinational crews who need to be competent to communicate in English orally and in writing. In this respect, the IMO (International Maritime Organization) and the STCW'95 (Standards of Training Certification and Watch-keeping) convention and code imposed a number of requirements regarding the seafarers' Maritime English knowledge and adequate use. Therefore, the Maritime Education and Training teachers have to meet the challenge of designing attractive and efficient courses to motivate and to assess their students to acquire more easily and in a more pleasant way the maritime terminology. It seems that the solution would be the E-learning courses which are becoming more and more popular with the 21st century teachers.

Purpose. To describe the main e-learning courses for the future navigators' communicative competence assessment, to define requirements for competence-based assessment of the future navigators' communicative competence regarding international maritime documents.

Results. Competence-based e-learning programs will represent a valuable alternative to a future navigators' communicative competence assessment. The MarTEL project reports on the significance of English as the working language of the international shipping industry and that the overall performance and safety of the international fleet depends on the skill to apply it correctly. Another E-learning program is the MarEng. The purpose of course is to empower and improve the students Maritime in English so that they are able to compete with the graduates from the countries in order to seek and fulfill job opportunities at the international level.

It should be mentioned, that communicative competence of future navigators includes not only language aspect, but also cultural. It should be pointed that cultural awareness lessons should be involved not only Professional English lessons, but other subjects too. Unfortunately, cultural awareness tests are not so popular as Maritime English ones. In this context, it was developed as author's E-learning course. The concept aim of it is to prepare the future maritime officers for effective professional work in multicultural environment.

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Key words: E-learning courses; communicative competence; future navigators; assessment; Maritime English, multicultural issues; tests.

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