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## INFORMATIONAL VISUALIZATION ON E-COURSES OF HIGHER MARITIME EDUCATIONAL INSTITUTIONS

**Abstract.** The article is devoted to the problem of informational visualization on e-courses of higher maritime educational institutions. It is highlighted that one of the effective means of visualization of information content is infographics in e-courses. The types of infographics are described. The actions to develop effective infographics are listed. It is concluded that the use of infographics contributes to an increase in the effectiveness of the educational process, forms the interest of students in studying the course.

**Keywords:** LMS MOODLE, informational visualization, e-course

Infographics as one of the effective means of visualization of information content is used in almost all spheres of public life. Higher maritime education is no exception. In our opinion, infographics is an integration model of presenting information as a result of high-quality data processing, which is subject to acquaintance and study by the interested audience. Teachers use infographics when explaining new learning material and to update basic knowledge.

Due to the rapid development of information and communication technologies, a number of special tools for information visualization have appeared. You can use special resource templates (canva.com, piktochart.com, Easel.ly, Vizualize.me) to create infographics. The positive aspects of using these services are the optional need to understand the basics of design, the ability to use professional templates in the library, customizing images and formatting, the ability to embed on your resource (platform). The most popular tools for creating an educational video are: bandicam.com and icecreamapps.com, etc.

According to the classification of types of infographics and specifics of free economic zones, the most used among teachers are the following types:

1. flow chart (algorithm in the form of blocks that are interconnected in the form of lines and indicate the sequence);
2. the timeline (the cadet can trace the chronological sequence of the process, the phenomenon);

3. useful bait (set of useful information, reference material);
4. versus infographic (comparison of certain processes, models);
5. photo infographic;

To qualitatively create information infographics for future specialists in the maritime industry teachers can use an algorithm:

1. to determine the purpose of the infographic and choose the type according to the classification;
2. to collect data in accordance with the subject of the discipline;
3. to systematize information, organize the presentation of basic and additional information with the help of schematic sketches, choose the sequence of placement;
4. for visual perception it is also necessary to determine the color palette of the elements (not more than 6 basic colors);
5. to follow the process of creating infographics using a specially selected service

While using different services normally following actions should be done:

6. to create an account for the service;
7. to view and select a template by theme or create a new design;
8. to add text and images according to the content of the topic of discipline (or to download this data);
9. to format the text (choose the size, style) and image (size, placement);
10. -to save and copy the link for placement on the e-course of the discipline on the LMS Moodle (or to embed the infographic using another way);

Because of COVID-19 pandemic situation the educational process of all higher educational institutions of Ukraine including maritime ones came into distance format. Kherson State Maritime Academy (KSMA) uses Learning Management System (LMS) MOODLE to maintain its educational process. An important issue became the presentation of material of lectures, practical lessons, independent works etc. It became harder to motivate students because distance education requires student self-discipline. One of the tools to interest students is to visualize the information, present it in more interesting way.

Except those, all the activities of e-course (Assignment, Book, Chat, Choice, Database, External tool, File, Holder, Forum, Glossary, H5P, HotPot, IMS content page, Lesson, Quiz, SCORM package, Survey, Wiki, Workshop) has the option to display its description on e-course main page.

LMS MOODLE also allows to embed the images of gif animation to divide different types of activities in e-course.

The video can also be embedded in the course main page.

However, it should be noted that the disadvantage of information visualization may be in a simplification in understanding ambiguous interpretations of something, the presentation of information is too structured, without additional details. The cadet must understand that the visualization of information is an auxiliary element, and to study the discipline is not enough just pictorial, schematic forms of presentation.

The analysis of scientific knowledge and pedagogical practice demonstrates that

the infographics in e-courses is an effective instrument. We'll analyze the data on the example of English for professional purpose e-course for future marine transport specialist (first-year student). The final goal of e-course was to form the communicative competence of students. By analyzing the data of success after using the e-courses with infographics, one can observe that the current state of formation of the communicative competence of future marine transport specialists of the 2019-2020 at KSMA is better compared with 2018-2019 academic year.

According to the results, we see an increase in the success (by 21%) and knowledge quality (by 13%). Qualitative indicator of success was taken as the number of students by "good" and "very good" multiplied by 100% and divided by the total number of students. An absolute success indicator was taken as number of students by "good", "very good" and "sufficient" multiplied by 100% and divided by the total number of students. The total number of future marine transport professionals taking part in the research is 64 students.

The data was taken from the processing of control testing results on LMS MOODLE of KSMA e-course "English for professional purpose" (Stop and checks activities). Stop and check is testing conducted by the end of every module of e-course and created with the help of quiz activity. Quizzes comprised the questions of various types, including multiple choice, matching, short-answer and numerical.

The statistical results of research have proved the idea on the positive impact of infographics in English for professional purpose e-course of higher maritime educational establishment. The research has also showed low level of digital competence of certain teachers. To solve this problem e-course with module about infographics creation was proposed. The prospects of further research are seen by authors in researching the specifics of infographics in various fields of scientific knowledge, as well as in the possibilities of using it for conducting e-courses to improve the qualifications of teachers of higher educational institutions.

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