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THE IMPACT OF LMS MOODLE ON MARITIME ENGLISH TEACHING OF FUTURE SHIP ENGINEERS

The process of digitalization nowadays is a prominent force across various sectors in Ukraine, including maritime training and education. Most of educational establishments were forced to be relocated from the regions which are next to front line (e.g. Kherson). Numerous challenges and problems immediately arose. One of which is distance organization of learning to continue maritime education and training of future seafarers.

Kherson State Maritime Academy (KSMA) was relocated to Odesa, Ukraine in 2022 and has lost its opportunities to provide full-term offline learning. E-learning process was organized on LMS MOODLE [14]. LMS MOODLE was chosen due to the following advantages: free

availability; comprehensive set of features for course management, content creation, assessment, collaboration, and communication; Ukrainian and English language support; integration capability with external resources; cybersecurity; mobile-friendly approach.

The objective of this research is to describe Maritime Education and Training of future ship engineers, namely Maritime English course while e-learning.

This study was conducted in KSMA (Ukraine) in collaboration with one of its structural subdivisions – Maritime Applied College which trains future navigators, ship engineers and electrical engineers (bachelor's degree). Staff (five Maritime English teachers) worked together to develop and LMS MOODLE course into future ship engineers' e-learning process. Research team was led by two PhDs, Associate Professors of English language department for maritime officers (abridged program). Maritime English Zoom sessions were conducted by teachers of Maritime Applied College of KSMA to check the material given on LMS MOODLE. The research team met at regular intervals to review the key items and identify further steps [2-4].

Research participants were third year ship engineering department's cadets (N=87) split into two teaching groups (A, B). Cadets were further split into smaller subgroups (e.g. A1, B2) for individual sessions with their teachers. The mixed method study was conducted in two phases over 2023-2024 academic year (cadets began their study in October, 2023 and finished it in February, 2024). Teachers have gained informed consent from the participating cadets. The data was gathered using focus groups and an external facilitator. Group sessions were approximately 80 minutes long, digitally recorded on Zoom videoconference platform, then transcribed by an administrator who signed a non-disclosure confidentiality agreement. Participants also used a simple scoring sheet to rate their satisfaction (1-5) with the different teaching and learning components used on MS MOODLE at the end of the interview. Three questions were used to structure each focus group session. Quantitative data were gathered at the end of the study using an online questionnaire created on Google Drive (the link was added on LMS MOODLE). The online questionnaire included 10 multiple choice questions. The following response indicators were used: 1 – for the lowest level and 5 – for the highest one. Limited

demographic data was also collected (age: 16-18 y.o., gender: 100% males).

Five themes were identified. They relate to the key elements of immersive learning.

The dominant theme relating to student's teaching and learning experiences was captured in the first cycle by the comment – "go over it, get it, see it!" indicating that elements of the immersive learning model worked together to reinforce learning.

The lessons made the students understand the concepts more. Online learning activities where the students had to match the diagram with the part of the engine (name and its function), were reported as preferable to "just reading and questions". Seeing the video also enhanced students' learning motivation because it helped to connect the learning materials and the machinery simulation [5; p. 26].

Participants rated their responses to four questions. Table 1 summarizes the ratings for Q1: How effective did you find each part (listed as1to5 in the table) of the immersive style of learning? (The scale used is 1 = low, and 5 = highly effective.) [1]. Table 1 shows that students preferred the case study as effective learning. Overall, the group case study and video are the most highly rated learning styles. "Just reading and questions" learning style is the lowest rated.

Table 1.

Overall Effectiveness of Immersive Style of Learning (N=87)

Items		1	2	3	4	5
1	Online learning material (Case study and Video)				12	67
2	Activities				21	54
3	Machinery simulation				5	70,1
4	"Just reading and questions"	10,1				
Averaged score		1,1	-	-	25,7	73,2

Students were also asked how much they liked, and their general perception of the immersive style of learning. Responses are summarized in Figure 1.
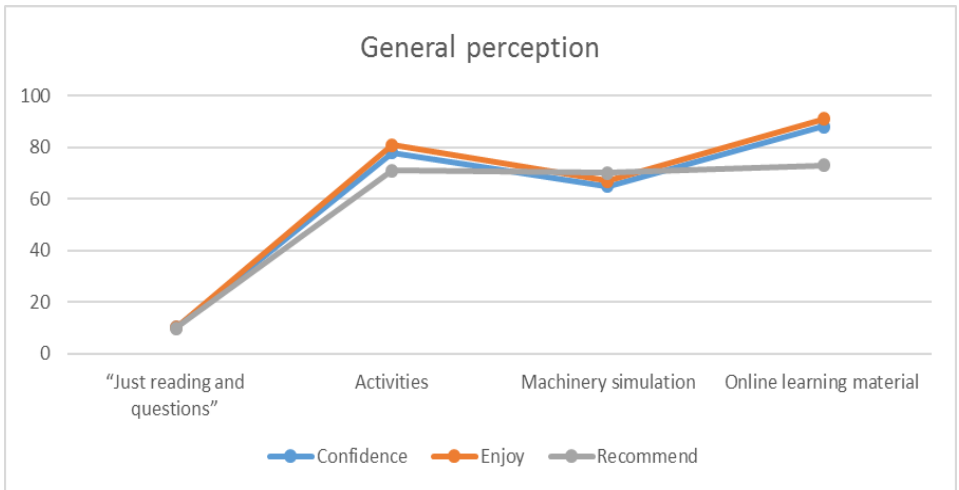
Figure 1. General Perception Of Online Learning

Table 2 summarizes themes identified from the open-ended responses to the online survey conducted at the end of the academic year. These responses show that the most valuable part of the immersive learning experience for students were the simulation and the case study; and the least valuable aspect, the various problems and challenges relating to using the technology and performing the experiments [6].

Table 2.

Themes from the Open-Ended Responses to the Online Survey

Questions	*Responses*
*What was the **most valuable** part of the immersive learning experience? (N=85)*	Simulation (41)
	Case study and pre-case study learning (21)
	Video/real life scenarios (16)
	Tutorials (7)
*What was the **least valuable** part of the immersive learning experience? (N=43)*	Technology not working/Too challenging or difficult (22)
	Teacher`s support (8)
	Time consuming (10)
	Play acting in an unreal scenario (3)

Moodle provides a centralized platform where Maritime English educators can upload teaching materials, share resources, and communicate with their students. This allows for easy access to course materials, enhancing efficiency and organization. Moodle has become a valuable tool for many educators and learners alike [7, p. 294].

Moodle offers features such as discussion boards, chat rooms, and online quizzes, facilitating interaction between teachers and students. This interactivity promotes effective language learning, as students can practice their English skills in a collaborative and engaging manner [11].

LMS Moodle also allows teachers to upload learning materials, including audio and video resources, which can be accessed anytime and anywhere. This accessibility is particularly useful for Maritime English learners who are often on ships or offshore locations with limited access to traditional classrooms. Moodle supports self-paced learning, where students can access course materials and complete assignments at their own convenience. This flexibility is essential for maritime professionals who have erratic schedules due to their work commitments [8]. LMS Moodle provides tools for creating online quizzes, assignments, and grading systems. This enables teachers to assess students' progress effectively and provide timely feedback, which is crucial in language learning.

By utilizing Moodle, educators can enhance the learning experience and track the development of their students more efficiently. With Moodle, teachers can track students' progress, identify areas for improvement, and provide individualized learning support. This monitoring aspect helps to tailor the teaching materials and approaches to meet the specific needs of maritime English learners. It is important to note that while Moodle has several benefits, effective language teaching also relies on the expertise and teaching methodologies employed by instructors.

Therefore, the successful implementation of Moodle in Maritime English teaching depends on the combination of technological tools and skilled educators [12].

The research investigated the impact of using the LMS MOODLE for Maritime English teaching in the context of e-learning at Kherson

State Maritime Academy (KSMA) in Ukraine, which was relocated due to war. The research revealed several key findings. The use of MOODLE activities, including links, assignments, presentations, and quizzes, had a positive impact on cadets' e-learning of Maritime English. This suggests that MOODLE provides effective tools and resources for delivering educational content and facilitating student engagement in the remote learning environment [9].

The research identified various advantages of MOODLE activities, such as free availability, comprehensive features for course management and content creation, integration capability with external resources, and cybersecurity. These advantages contribute to the effectiveness and accessibility of online education, particularly in the maritime education sector. Cadets reported that interactive elements of the MOODLE platform, such as online learning materials, activities, machinery simulation, and case studies, enhanced their learning experience. These immersive learning activities helped reinforce learning concepts and increase motivation among students.

Despite the overall positive impact, challenges related to technology issues and teacher support were identified. Addressing these challenges through improved technical support and teacher training could further enhance the effectiveness of e-learning initiatives [10, 13].

Overall, the findings suggest that the integration of LMS MOODLE into maritime education and training at KSMA has facilitated effective distance learning, ensuring continuity in education and training for future seafarers despite the challenges of relocation and remote learning. The prospects of further research can be seen in the continuous improvement of e-learning in maritime education and training (e.g. using AR and VR).

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