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Opportunities and Challenges in Developing Mar-Lang: A Digital Learning Platform for Maritime Vocabulary

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Abstract. MAR-LANG - *Linguistic Diversity in European Maritime Higher Education Institutions* is a project co-funded by the Eramus+ Programme, led by the French Maritime Academy in partnership with the Romanian Naval Academy and the Lithuanian Maritime Academy. The aim of the project was to develop a harmonized digital learning platform for Maritime English and French to adapt to the evolving needs of the stakeholders within the European maritime training and education system. This paper explores the opportunities and challenges in developing MAR-LANG digital learning platform, which offers six bilingual courses (in English and French), covering three key areas of maritime vocabulary: Ship manoeuvring and cargo handling, Port and maritime logistics and Naval engineering. This learning tool gives learners the possibility to improve their maritime vocabulary through self-paced learning, by means of interactive glossaries, vocabulary building exercises, and personalised feedback, and provides maritime language teachers with an aid for enriching their lessons with engaging resources and assessing progress effectively. One of the challenges in developing the teaching and learning materials was selecting and integrating specialized maritime vocabulary while ensuring student engagement. Additionally, overcoming technical limitations required creative solutions, such as the use of external tools for vocabulary games and multimedia support. Furthermore, developing content for various proficiency levels, particularly in French, also demanded careful planning.
Keywords: MAR-LANG, digital learning platform, maritime education, maritime vocabulary.

1. Introduction

The implementation of Information and Communications Technologies (ICT) into education over recent years has brought about important changes in teaching and learning practices. ICT has been shown to enhance student engagement and motivation, while promoting lifelong learning and sustainability (Boeru, 2024). Among the various strategies for teaching and learning foreign languages, Computer Assisted Language Learning (CALL) stands out, with its widespread integration into curricula worldwide. CALL shifts the focus from teacher-led instruction to learner-centered approaches. Concepts such as “active learning” and “learner autonomy” are often brought into discussion (Littlewood, 1997, as cited in Gimeno-Sanz, 2009). CALL uses technology to help with language acquisition, offering several benefits for English for Specific Purposes (ESP) learning, including access to authentic materials and independent learning, immediate feedback and personalized instruction. (Abdullayeva, 2023).

In this way, online learning and teaching are rapidly reshaping language education, with the internet becoming an essential tool in contemporary teaching practices. There is a growing demand for digital learning resources, with learners seeking less traditional, more innovative study materials that

allow for more flexibility and independence. At the same time, teachers are adopting modern methods to better engage students and improve learning outcomes.

However, despite the growing demand for ESP (English for specific purposes) online learning resources, particularly Maritime English or French, the available options remain few and limited. Platforms such as MarEng, PraC-Mareng and SeaTALK[1] offer Maritime English courses aimed at improving language skills for seafarers, focusing on communication and maritime terminology. While valuable, these platforms highlight the need for more accessible and diverse resources in this niche area of language learning, especially in terms of free materials. Free resources for learning Maritime French are even scarcer, making it more challenging for learners to find specialized materials and underscoring a pressing need for development in this area.

2. Building MAR-LANG. Tools, techniques, and implementation

To address this gap, MAR-LANG - *Linguistic Diversity in European Maritime Higher Education Institutions* was developed, a project co-funded by the Eramus+ Programme, and the result of the joint effort and experience of the project partners: the French Maritime Academy (ENSM), the Romanian Naval Academy (RNA) and the Lithuanian Maritime Academy (LMA). The aim of this project was to develop a digital platform, seeking to encourage students enrolled in maritime-specific study programs to use proper and correct French and/or English maritime terminology in maritime communication. The project set off from the idea that promoting vocabulary acquisition could enhance the efficiency and quality of maritime services in the EU, and that bilingualism (i.e. French and/or English maritime terminology) should be regarded as an important part of academic maritime-specific programs.[2]

A learner-centred design methodology was applied in the development of the MAR-LANG platform, with a strong focus on addressing the specific needs, feedback, and learning behaviours of maritime students. This approach ensured that the structure, content, and functionality of the platform were continuously refined through piloting and iteration to best support the target learners.

There are several universal design principles that should be integrated into an online English learning platform, namely to ensure user-friendliness and accessibility for diverse learners, clear communication, feedback, and assistance. Additionally, the platform should provide a comfortable, safe, and enjoyable experience that minimizes fatigue and encourages prolonged engagement (Li, 2020). It is evident that the development of online learning platforms is now highly advanced, with complex technical resources and developer insights available to address potential challenges. For MAR-LANG, the Moodle platform proved to be an effective choice, due to its user-friendly interface, and clear instructions, as well as its compatibility with both computers and mobile devices (at least in part). It also offers safe and easy navigation, and personalized features, ensuring accessibility and convenience for users. This made it entirely feasible to build a web-based digital platform focusing on maritime vocabulary, using the Moodle system's existing capabilities.

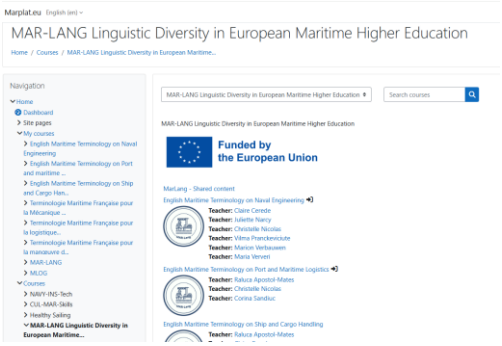

Figure 1. The MAR-LANG homepage

[1] For further information, please refer to the following sites: https://blogit.utu.fi/mareng/mareng/ ; https://www.prac-mareng.com/ ; https://seatalkweb.com/.

[2] For further information, please refer to the following site: https://www.anmb.ro/marlang/

As previously stated, the primary objective of the project was to create a learning platform, designed as a virtual campus, covering three specific maritime areas, in both English and French: Ship manoeuvring and cargo handling, Port and maritime logistics, and Naval engineering. The ensuing six courses aim at enabling communication with correct and appropriate terminology. Each course consists of 6 to 8 modules, covering a total of 46 lessons. Upon the project's completion, a total of six glossaries, in both English and French, were produced, encompassing over 4000 maritime terms. Additionally, the platform included 44 learning modules comprising 300 reading pages, 500 interactive exercises and 700 assessment questions.[3]

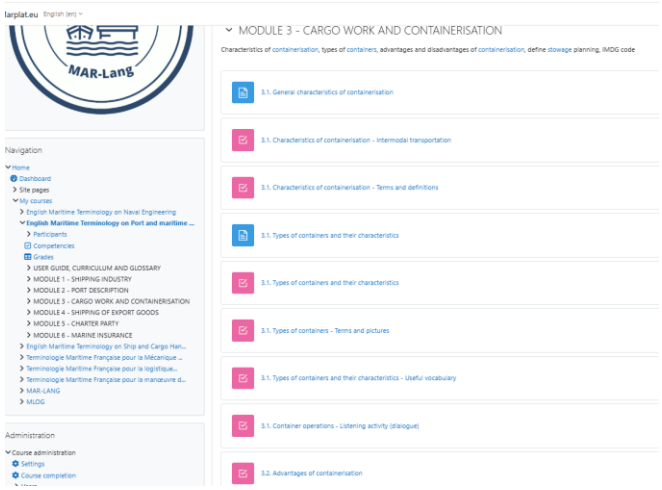

Figure 2. MAR-LANG module layout

The self-learning platform is well supported on computers and partly accessible on mobile phones. As with other online learning platforms, a simplified login system gives students the possibility to select a course and access the learning materials best suited to their needs. These resources primarily focus on reading, listening and to a lesser extent writing, enabling learners to improve their maritime vocabulary and language skills in a targeted way. The various exercises receive immediate feedback upon completion. At the end of each module, there is a final self-assessment test meant to evaluate overall progress.

Teachers of maritime English or French can also use the platform as non-editing teachers. Their information is normally set up by the platform administrator, who also generally maintains the platform. The students' activity and test results are uploaded to a data base, allowing teachers to access student's learning data in real time.

3. Exercise design and vocabulary-building opportunities

In designing the teaching and learning materials, the courses were developed to address the learners' specific language needs, based on their field of study. To achieve this, authentic resources were incorporated, such as articles, diagrams, shipping documents samples, pictures and videos relevant to maritime contexts, ensuring the development of language skills applicable to real-world contexts. Task-based learning activities were also employed to simulate practical scenarios that require learners to actively use vocabulary, such as completing a shipping document or identifying components on an electrical diagram. Also, importance was given to building maritime English and French vocabulary through engaging activities, such as word association games and flashcards, helping learners effectively memorize and apply new terms.

[3] For further information, please refer to the following site: https://marplat.eu/course/index.php?categoryid=16

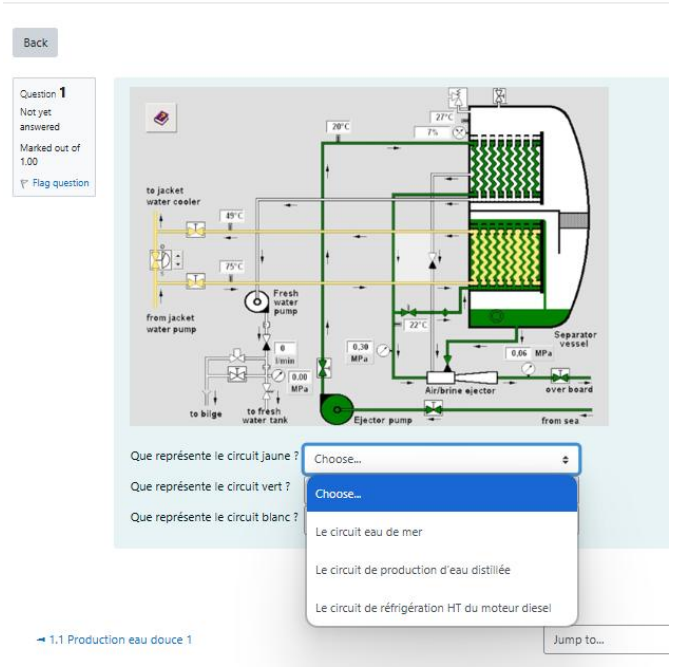

Figure 3. Exercise sample (French)

The courses include a variety of exercises designed to support vocabulary learning, supported by interactive glossaries that include not only textual definitions but also audio pronunciation of the terms and, where applicable, relevant images. Glossary terms are highlighted throughout the texts and exercises, allowing learners to click on them to instantly access their meanings. Additional learning activities include true/false questions and gap-filling exercises, some of which may incorporate video sequences, sound files, or images. For assessment and revision, multiple-choice questions are generally used to objectively evaluate student's learning outcomes and their grasp of key terminology.

Student self-assessment is done throughout the courses as they receive feedback immediately after doing an exercise, together with the corrections of any mistakes. By employing a comprehensive evaluation framework, the quality and effectiveness of the online learning experience is enhanced. The structure of the modules encourages individual progress, as students can repeat exercises as often as needed, working at their own pace, without the pressure of time limits. The only exception is the final assessment, which is subject to a time limit and restricted to two attempts.

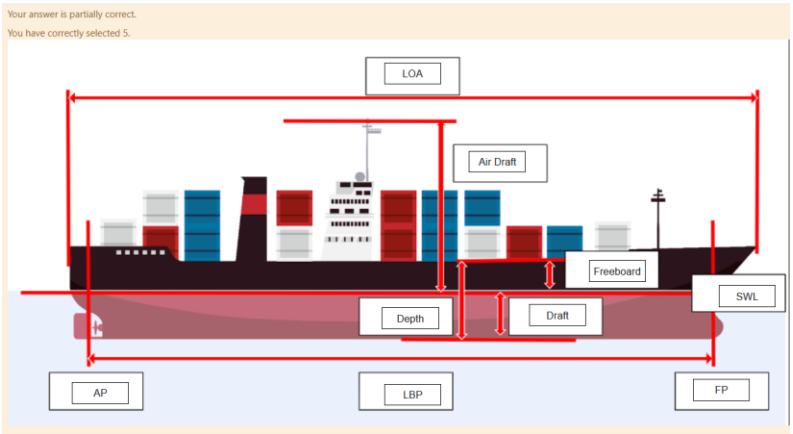

Figure 4. Feedback sample

4. Challenges in developing MAR-LANG

Designing a digital learning platform, specifically tailored for maritime students, presented complex challenges to those involved in the project. Maritime vocabulary requires careful selection and presentation to align with industry standards and students' needs. Therefore, creating exercises that balance student engagement with accuracy is crucial, as students must acquire terminology that will be used on board ships or in ports, often under complex and technical circumstances. Also, technical limitations cannot be ignored, as they may pose significant challenges, leading to time constraints.

4.1. *Vocabulary selection*

Developing the interactive glossaries required meticulous planning to align with students' needs. First of all, the selection of the terms was carefully made to match the learners' objectives and proficiency levels. Supporting students with lower levels of French was particularly challenging. Simplifying content without compromising accuracy was essential and demanded thoughtful strategies to break down complex definitions, integrate visuals, and provide additional context. After this stage, reverse-engineering from glossaries was used to inform the design of learning materials, ensuring consistency and clarity throughout.

4.2. *Platform Organization and Exercise Design*

Creating an interface that would encourage consistent practice was one of the main concerns. Besides ensuring a logical flow that facilitated intuitive navigation, this meant incorporating multimedia elements meant to deepen comprehension, such as images or audio and video files to illustrate terms. Assessment was designed to offer meaningful feedback, helping students identify areas for improvement without feeling discouraged. To ensure the project was on good track, extensive testing and piloting of the courses with groups of students was considered crucial to the process. Their feedback was invaluable, guiding continuous refinements to ensure the platform met their needs effectively.

4.3. *Technical and time limitations*

The capabilities of the Moodle platform presented certain limitations, primarily supporting listening, reading, and a limited range of writing activities (e.g. fill-in-the-blank exercises). Therefore, the customization of exercises was restricted, which led to the use of external links for certain activities, such as crossword puzzles and vocabulary games.

Furthermore, time constraints, arising from technical issues, became a significant limitation in the process. First, the teachers had to get familiarised with the platform's features. This was followed by rethinking and adapting activities to fit within the platform's capabilities, a process that proved to be very time-consuming. Adapting materials to these limitations required technical skills and a significant amount of patience and perseverance. Some exercises went through up to ten versions before reaching their final form, reflecting the iterative nature of the material development process. Moreover, testing the exercises, gathering feedback, and making the necessary corrections became an ongoing process to ensure the quality of the courses. All this demanded sustained effort and attention to detail, but it ultimately resulted in a more effective learning experience.

5. Expanding opportunities for students, teachers and maritime institutions

Despite the challenges, MAR-LANG provides significant opportunities for students, teachers, and maritime academies. For students, the platform provides free access to valuable resources for practicing maritime English or French. The use of interactive glossaries, vocabulary building exercises, and personalised feedback improves the learning experience. Through self-paced learning, students can revisit exercises as needed, allowing them to progress at their own speed. This flexible approach increases students' awareness regarding self-education and builds not only vocabulary mastery, but also students' confidence to apply these skills in real-life. As a result, learners' feedback was particularly positive. They appreciated the interactive and enjoyable activities, especially the

listening exercises. They found the glossary excellent – highlighting its usefulness, clear links to learning materials, inclusion of images and pronunciation, and value for beginners. The interface was also described as being simple and accessible.

As for the maritime teachers, they are provided with an engaging teaching tool that they can use either in or outside the classroom. The MAR-LANG platform enables experimentation with innovative teaching methods while providing data-driven insights. With the help of MAR-LANG, teachers can track student progress, pinpoint areas of difficulty, and adapt their strategies accordingly, enhancing the learning experience.

MODULE 4 - SHIPPING OF EXPORT GOODS

4.1. Export orders	3 views	Friday, 13 September 2024, 9:14 AM (223 days 14 hours)
4.1. Export order form	3 views	Friday, 13 September 2024, 9:14 AM (223 days 14 hours)
4.1. Export orders	Grade: 10.00 / 10.00	Thursday, 12 September 2024, 9:34 AM (224 days 14 hours)
4.1. Export Orders	Grade: 7.50 / 10.00	Thursday, 12 September 2024, 9:36 AM (224 days 13 hours)
4.1. Pro Forma Invoice	Grade: 5.00 / 10.00	Thursday, 12 September 2024, 9:44 AM (224 days 13 hours)
4.1. Export Clauses & Incoterms	3 views	Friday, 13 September 2024, 9:15 AM (223 days 14 hours)
4.1. Incoterms	Grade: 10.00 / 10.00	Thursday, 12 September 2024, 10:02 AM (224 days 13 hours)
4.2. Reading text - Export Documentation	2 views	Friday, 13 September 2024, 9:15 AM (223 days 14 hours)
4.3. Reading Text - Shipping Documents	3 views	Friday, 13 September 2024, 9:15 AM (223 days 14 hours)
4.3. Shipping Documents - Listening activity (dialogue)	Grade: 10.00 / 10.00	Thursday, 12 September 2024, 10:40 AM (224 days 12 hours)
Module 4 final assessment	Grade: -	

MODULE 5 - CHARTER PARTY

5.1. Types of charter party	14 views	Tuesday, 29 October 2024, 9:22 AM (177 days 13 hours)
5.1. Types of charter party - Terms and definitions	Grade: 4.44 / 10.00	Thursday, 12 September 2024, 10:58 AM (224 days 12 hours)
5.1. Types of charter party - True or False	Grade: -	
5.1. Voyage or time charter? - Listening activity	Grade: 6.25 / 10.00	Friday, 13 September 2024, 10:24 AM (223 days 13 hours)
5.2. The content of a charter party	Grade: 6.00 / 10.00	Friday, 13 September 2024, 10:47 AM (223 days 12 hours)
5.2. Responsibilities of the parties	Grade: 3.33 / 10.00	Friday, 13 September 2024, 10:49 AM (223 days 12 hours)
5.2. Negotiating a charter party. Listening activity (dialogue)	Grade: 8.75 / 10.00	Friday, 13 September 2024, 11:05 AM (223 days 12 hours)
Module 5 final assessment	Grade: 9.00 / 10.00	Tuesday, 29 October 2024, 9:42 AM (177 days 12 hours)

Figure 5. Student assessment report

Moreover, beyond individual benefits, MAR-LANG supports the broader training needs of maritime academies, by serving as a complementary tool in formal education settings. The platform's adaptability ensures that it can meet institutional needs while aligning with international maritime training standards. By equipping students with essential language skills, in both English and French, the platform promotes clear communication and thus contributes to improved safety and operational efficiency at sea. This aligns with the ultimate goal of preparing students for success in real-world maritime environments.

6. Conclusions

The development of MAR-LANG was a complex yet rewarding endeavour. It required careful vocabulary selection, thoughtful platform organization, adaptability to technical constraints, and significant time investment. Despite these challenges, the project has opened up meaningful opportunities for learners, educators and maritime institutions. Learners benefit from a flexible, self-paced platform designed to improve their English and French maritime vocabulary. Educators, in turn, gain access to a versatile aid that enriches classroom activities. For maritime academies, MAR-LANG offers a harmonized, bilingual resource that can be adapted to diverse curricula.

Ultimately, MAR-LANG demonstrates the potential of digital tools to modernize maritime language education, enhance communication skills and contribute to the overall operational efficiency in the maritime field. As maritime education continues to evolve, platforms such as MAR-LANG represent valuable steps to toward more inclusive, effective, and innovative solutions.

References

1. Abdullayeva, Saida. (2023). "Effective approaches in teaching English for specific purposes". In: *Society and Innovations* 4, pp. 296-299.
2. Boeru, Mariana. (2024). "ICT-Enhanced Maritime English Teaching and Learning at Tertiary Level. A Contrastive Analysis". In: *Studia Universitatis Babeș-Bolyai Philologia*, pp. 285-305.
3. Gimeno Sanz, A. (2009). "Online Courseware Design and Delivery: The InGenio Authoring

System". In: *Teaching Academic and Professional English Online*. Bern: Peter Lang, pp. 83-105.
4. Li, Jie. (2020). "Design, Implementation, and Evaluation of Online English Learning Platforms. Wireless Communications and Mobile Computing". In: *Machine Learning in Mobile Computing: Methods and Applications.*
5. Littlewood, W. (1997). "Self-access: why do we want it and what can it do? Autonomy and independence in language learning". In: *Applied Linguistic and Language Study*. Essex: Longman, pp. 79-91.
6. MAR-LANG *Linguistic Diversity in European Maritime Higher Education Institutions*. Retrieved April 24, 2025, from https://www.anmb.ro/marlang/index.html
7. MAR-LANG *Linguistic Diversity in European Maritime Higher Education Institutions*. (*Shared Content)*. Retrieved April 24, 2025, from https://marplat.eu/course/index.php?categoryid=16