CLIL: INTEGRATING PROFESSION-FOCUSED SUBJECTS AND MARITIME ENGLISH

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Abstract: The article describes how communicative teaching of Maritime English can be integrated with the content of profession-focused subjects. Different approaches to the design of interdisciplinary courses have been analyzed. The authors discuss the requirements to the development of the integrated language course programme and suggest possible interdisciplinary units in the recently up-dated Maritime English programme for Deck Officers at Kherson State Maritime Academy which focuses on the sequence and advancement of communicative language learning within the integrated process. The interdisciplinary teaching activities are recommended for use in relation to learning outcomes and how they are interlinked with occupational requirements.

Keywords: interdisciplinary integration, training programme, Maritime English, profession-focused subjects.

Nowadays one of the most significant challenges in teaching Maritime English for future deck officers is to design and develop training programme and language learning activities which integrate Maritime English with the standards and requirements of the navigation profession. The design of such an integrated programme promotes the development of communicative language skills by enabling students to perceive, interpret and use their professional information in a real working environment. Additionally, there is one more challenge how to integrate learning activities of Maritime English and profession-focused subjects within the approved training programme, how to find and implement interdisciplinary units between these parallel disciplines.

Thus, professional training of future deck officers within the system of higher maritime education of Ukraine shall meet the requirements of national (industry standard) and international documents (resolutions, conventions, codes), adopted by the International Maritime Organization (IMO).

Hence, training of future deck officers interconnected with their professional requirements is a key issue for maritime institutions. Consequently, these institutions shall develop training courses and learning materials to develop communicative skills at its core so necessary for safe practice on board. The main goal of such training courses is to cultivate maritime officers and ratings who apply their professional knowledge and skills, communicate efficiently with the team in a natural and common working environment.

In view of the foregoing, it is very important that maritime institutions play a proactive role and develop integrated training courses which prepare future deck officers for their professional career at sea. Training focused on interdisciplinary integration shall not be a simple addition to the established curriculum of maritime institutions. It is necessary to provide conditions for effective integrated teaching and learning.

The problems connected with interdisciplinary or cross-curricular teaching of Maritime English have been studied by Ukrainian (V. Kudryavtseva, I. Lytvynenko, V. Smelikova) and foreign researchers (C. Chirea-Ungureanu, C. Cole, J. Eliasson, A. Ferreira, A. Gabrielli, J. M. Nthia, B. Pritchard, P. Trenkner and others).

Most of the researches are focused on the attempts and results of different maritime institutions in designing the effective and integrated Maritime English programmes. The authors share their own experience of developing such academic programmes, discuss the need and efficiency of cross-curricular collaboration. In our article we will take into account the achievements of some foreign maritime institutions: Chalmers University of Technology (Sweden) [3], Constanta Maritime University (Romania) [1], Ecole Navale (France) [4]. C. Chirea-Ungureanu, C. Cole, B. Pritchard, P. Trenkner draw the attention to the importance of "marinisation" of Maritime English teacher in order to provide a creative way of linking professional and language information through a common lesson theme [1; 15].

But much of the focus must be on development of successive and progressive integrated training courses and teaching materials which would assist future deck officers in the field of professional training to meet challenges of a modern maritime industry. The improvement of training materials as guidelines for effective integrated Maritime English teaching shall be done dynamically and continually. Taking into consideration that the mentioned problem has not been fully dissected, it is necessary to outline specific and logical instructions as for the development of integrated programme and learning activities which would meet the requirements of the main official publication covering the problem of career training such as the International Convention on Standards of Training, Certification and Watchkeeping (STCW).

The purpose of the research is to explore Maritime English interdisciplinary integration.

We fully accept the concept that Maritime English serves as a *Lingua Franca* at Sea. "It is important for the maritime industry that a common working language (namely Maritime English) is competently used to safeguard the ship, the crew, the environment in which it sails and to realize an efficient sea transport procedure" [15, p. 153]. The vessel is a social, cultural and working environment for crewmembers on board, the chances that they have to encounter the personnel of different nationalities and cultural backgrounds are very high. Future deck officers shall communicate both between ship and shore in routine and emergency situations, e. g. in narrow channels, in traffic separation schemes, in restricted visibility, in distress / urgency situations, during berthing, anchoring, pilotage etc. In all above mentioned situations the crew shall communicate adequately in order to guarantee the safety of navigation. Moreover, the deck officers are engaged in ordinary communication on an intra-ship level. There is a need in accurate and clear on-board communication for safety of the crew and the vessel and effective social and cultural interaction among the crewmembers. These factors are very important as many maritime accidents are caused by communication failures and misunderstandings [5, p. 200].

Within the system of higher maritime education Maritime English overcomes subdivision of professional knowledge into different subjects based upon its integrative quality and by means of integration process [19, p. 143].

Thus, it is so necessary to determine the integrated content of Maritime English, to develop the training programme which will provide a good starting point for cadets – future deck officers, define concrete learning outcomes and satisfy graduates' and employers' requirements. Consequently, Maritime English is a universal integrating element and the content of its learning is a model-forming factor of interdisciplinary integration [19, p. 146].

There are different approaches to the development of the training programme of Maritime English, taking into account interdisciplinary adaptation, design, and implementation of teaching and learning activities. However, the essential features common to all programmes and curricula are: formalized courses of study; specific planning or scheduling to determine learning outcomes and structure to facilitate learning and assessment [14, p. 170].

IMO Model course 3.17 [9] serves as a main guidance for Maritime English teachers to develop Maritime English programme. It can be applied together with other IMO model courses: "Personal Safety and Social Responsibility" [7], "Leadership and Teamwork" [8], "Master and Chief Mate" [10], "Officer in Charge of Navigational Watch" [11].

The absence of national industry standards for the Maritime English Bachelor and Master degree courses has caused the situation when each Maritime institution in Ukraine develops its own training courses.

The major aim of Higher Education has been to train professional skills in a specified vocational area. It is provided by a number of technical subjects which teach necessary knowledge and train key skills which are essential for the profession. From such perspective Maritime English occupies a special place in future navigators training, as it combines knowledge of language itself (vocabulary, grammar), professional terminology and communication skills (behavior, strategies) with knowledge of the profession itself. That's why while planning new course it is important to use industry recognized standards to meet the international requirements and provide efficient training.

To develop the Maritime English course it is necessary to focus on the requirements of the IMO STCW Convention [6]. It contains a list of professional competencies at three levels of responsibility (support, operational and management). These descriptors are used as a main guidance to create an authentic profession-oriented learning content for the Maritime English course. The STCW Code [6] emphasises on the competence as the most valuable outcome of any training process. Based on the STCW requirements the IMO Model Course 3.17 recommends the list of authentic tasks to check students' professional communicative competence. The other internationally accepted standards used as measuring tools to assess Maritime English language performance are the Common European Framework of Reference (CEFR) and Yardstick, a descriptive scale specially created for the needs of Maritime English assessment. In accordance with these internationally accepted standards the students on completion a Master degree course should demonstrate Proficiency level (CEFR), or Expert User (Yardstick).

Taking into account the special place that Maritime English occupies among other professional subjects and Higher Education orientation on professional competence developing as its paramount aim, it makes a content and language integrated learning (CLIL) a main startegy in learning language. The introduction of CLIL into teaching foreign language within vocational setting increases the time of target language exposition, motivate students to meet their needs, integrates different subjects knowledge, provides opportunity to study learning content from different perspectives, enriches classroom practice with the tasks typical for other subjects, and prepares students for future working life.

As the language teachers we place an educational focus primary on language mastering: a learning content is used as a resourse for communicative skills development, a variety of professionally-oriented tasks to provoke students to put the language learnt into a practice.

The primary aim of CLIL - learning content by means of a foreign language - meets the essential requirement of a communicative approach to use a language as a practical tool for communication. Dual focus on content and language improvement, emphasis on problem solving tasks creates a student-centered environment and causes meaningful genuine interaction, while learning tasks reflect real vocational setting and motivate students.

Exploiting the principles both of communicative approach and CLIL the language teacher focuses on the development of language competence, simultaneously enhances the learning of professional subjects content, thus motivates students learning interests.

Provided by Coyle, a pedagogical framework of the 4Cs (Content, Communication, Cognition, and Culture) integrates the professional subject content with language mastering by means of communicative and cognitive interaction (problem solving and "knowing how to do" tasks) can be used as a clear guidance to organizing language learning process [2].

Based on the experience of exploiting CLIL for the purpose of language learning it should be noticed that such process requires collaboration between a language teacher and a subject teacher to obtain professional content knowledge. It may require more time for the lesson preparation and extra efforts but benefits are obvious.

A teamwork and cooperation between teachers of Navigation Science and Maritime English enable them to work effectively in an integrated course design, programme development and therefore enhance teaching, learning and assessment of future maritime officers [14, p. 171]. Such cooperation can enrich an English teacher with amount of genuine tasks which aimed to prepare students for the practical skills they will need at sea and practicing communication skills and strategies.

The Maritime English Programme for Deck Officers at Kherson State Maritime Academy (KSMA), Ukraine, has undergone fundamental changes in recent years [18]. These changes were updated due to the implementation of the competency-based approach to leaning and teaching process at our educational institution. A newly-approved structure of the training programme meets main STCW requirements as for training of competent maritime officers. The sample of Maritime English programme for Deck Officers at KSMA, currently in use, is given in table 1.

Table 1

Sample of Maritime English Programme

Module	Skills description
Bridge Equipment	1. name the navigational equipment and their functions 2. simulate a briefing on navigational equipment status using a checklist 3. describe functions of chart table instruments **Essential Competency:** characterize working principles of bridge equipment.
Communication at Sea	1. interpret visual signals used at sea 2. define ship status according to exhibited lights or day shapes 3. interpret manoeuvring and warning signals 4. simulate routine / distress / urgency / safety radio traffic **Essential Competency**: speak about communication at sea in terms of COLREG Rules 32, 33, 34.

Students (future deck officers) shall acquire the main competencies during their 4 years of study for a bachelor degree, and 1,5 year for a master degree. Each module is developed progressively throughout the programme. Within each module, new knowledge is initially introduced, taught, applied and finally assessed.

The Maritime English Programme for Deck Officers at KSMA leads to certain academic degree aimed to provide deck officers with the essential competencies necessary to handle seagoing vessels on international routes. After completion of the bachelor / master programme, the graduates can serve as a Second Mate / a Chief Mate or Master correspondently.

The programme structure demonstrates that the content of Maritime English and profession-focused subjects is integrated. For example, modules "Types of Cargoes" and "Types of Ships" are introduced and integrated via profession-focused course "Theory of Ship Arrangement"; modules "Underway" and "Navigation Challenges" via "Navigation" course; modules "Personal Skills and Qualities in Crew Management", "Communication and Briefings", "Human Factor" via "Maritime Resource Management" etc. (table 2).

Table 2

Interdisciplinary links between Profession-focused and Maritime English Courses

№	Profession-focused Course	Maritime English Course Module Content
1	Theory of Ship Arrangement	Types of Cargoes Types of Ships
2	Bridge Watchkeeping Procedures	Crew and Its Tasks Bridge Procedures
3	Occupational Safety	Personal Safety Aboard
4	Environmental Studies	Marine Pollution
5	Navigation	Aids to Navigation Underway
6	Ship Handling	Underway Navigation Challenges
7	Radio Navigational Devices and Systems	Bridge Equipment
8	Navigational Information Systems	Bridge Equipment
9	Cargo Transportation	Bulk Cargo Handling Liquid Cargo Handling Heavy-Lift Cargo Handling Container Cargo Handling Dangerous Cargo Handling
10	Meteorology and Oceanography	Meteorology for Safe Navigation

11	Ocean Passages of the World	Around the World
12	Maritime Resource Management	Personal Skills and Qualities in Crew Management Communication and Briefings Human Factor

The language teacher task is to select and adapt the learning material and exploit opportunities for language learning. For these purposes the language teacher is to use different language strategies and techniques to make the content comprehensible, create proper scaffolding activities to encourage learners noticing a target language. As the CLIL students are introduced to a great variety of context, reading is an essential skill to be trained. Scaffolding activities below can be used to reduce the cognitive and linguistic load of the content and develop reading comprehension skills and vocabulary acquisition:

- Scan the abstract from the log book and underline the meaning of the data
- True/false statements
- Gap-filling
- Jigsaw reading
- Selecting key sentences
- Paragraph summary matching
- Dummy sentences
- Table completion
- Separating facts and opinions
- Comparing different accounts of one event (incident reports, letters of complaint)

The teachers of Maritime English should also be familiarized with the skills the students need at sea and create the tasks which enable them to demonstrate their professional knowledge as well as communication skills in order to perform the task. For these purposes we can suggest posible higher-order thinking interactive activities:

- Simulate the situation
- Problem-solving the situations
- Guided telephoning / VHF call
- Reconstructing a phone call (in written form to fill in the blank)
- Debates
- Free role-play

Such tasks should be designed as a problem-solving activity, based on a workplace-style scenario. Firstly, it motivates students to interact with a purpose to complete the task and get meaningful outcome, and, in addition, the trainee has an opportunity to improve his/her language skills. Below there are two examples of such tasks developed on the topic *"Search and Rescue Operations at Sea"*:

Discussion. Both ships (the Costa Concordia and El Faro) didn't send distress messages to the nearby ships or coast stations. Why? What do you think hinder them from requesting an immediate assistance?

Simulation. In pairs
a. Transmit an initial distress call from the ship:
Student A – a ship in distress (Costa Concordia or El Faro)
Student B – a coast guard
b. Complete Inmarsat-C Format / DSC Format forms with information received.

A performance-based task on the topic *"Heavy Lift Cargo Handling"*:
Role Play. In groups of three, role-play the conversation.

Student A is the Master, *Student B* is the Cargo Officer, *Student C* is the Loading Surveyor. You have to load two heavy-weight HP absorbers on board, with weights 1,342 and 1,275 metric tons respectively. Discuss all cargo loading / discharging formalities (some ideas are given).

Performance-based tasks suggest not only a field-specific target language and oral communication skills assessing, but also the quality of trainees interaction within the learning content as well as professional behaviour. All these items constitute a professional communicative competence.

To assess such task the language teacher should identify the explicit aims and criteria. Below we suggest some criteria to assess the CLIL students.

- Communication is clearly and unambiguously given and received (communication skills to receive and produce information, ability to interact).
- Communicating in the target language (Implemented field-specified terminology and language register are appropriate to the professional settings).
- Exploiting of metacognitive skills and strategies to access, process and critically evaluate information. Effective leadership behaviours are demonstrated.
- Knowledge of professional domain. Performance demonstrated is to be effective and in accordance with applicable rules.

The main aim of Maritime English and profession-focused subjects integration through the training programme is to make students realize the whole picture of their particular professional context. J. Eliasson, A. Gabrielli mention that integrated Maritime English courses lend themselves to cross-curricular assessment which may be a higher form of formative assessment very much pursued in the maritime industry. This also means that Maritime English takes a very important place in the curriculum; that it becomes evident in its natural context [3, p. 68].

As a result, the Maritime English Programme for Deck Officers at KSMA is an example of possible interdisciplinary integration of profession-focused subjects (Navigation Science) and Maritime English at programme level.

Besides of that, in this article we'd like to recommend a number of joint teaching and learning activities. We agree with C. Chirea-Ungureanu that "in order to teach Maritime English communication skills, the traditional methods are not enough. They have to be supplemented with a different knowledge base and have to borrow heavily from nautical sciences" [1, p. 46]. The learning and teaching environment shall familiarize learners with a variety of ways in which Maritime English can be applied.

So, we suggest certain changes in the teaching methodology at this stage [5, p. 204].

1. The teacher is advised to use simulation activities at Maritime English lessons. These simulations can cover different professional circumstances, e.g. VHF communication, bridge watchkeeping, emergency drills etc. The help of technical aids (VHF radio, multimedia projector, bridge simulator) is preferable.

2. The teacher shall use authentic and real-life / near-real information. As it is difficult to take the students to real working site area, authentic real-life / near-real information can be rather useful for the trainees to meet with challenges of a natural working environment. The information is selected from different resources: maritime accident reports, maritime officers' memoirs, ship's log books, ship's and shipping company's correspondence, maritime journals, the Internet etc. The appropriate case studies should also be used at Maritime English lessons, as they can promote better learner participation. Based on our teaching experience we can recommend to use the following resources: "In Command" by Captain C. M. Lloyd [13] and "21st Century Seamanship" [16].

3. Role-plays can be helpful when making presentations of daily life scenes of the crew in dramatized form. The best way is to have these scenes acted out be the trainees. Each scene shall be planned to demonstrate a professional problem. After the role-play is performed it shall be discussed in a class. But the teacher shall conduct role-plays keeping in mind the language skills of the learner group.

4. Group discussions are highly recommended to develop Maritime English communication skills. The training process may be more successful if it is based on cooperative and interactive

teaching. The students are given a task to solve different problems by discussing a particular profession-focused topic in a group.

5. The trainees shall be involved in research work. The instructor may advise some topics to do a deep research by guiding / assisting students to prepare projects or presentations on suggested topics. Such activity can raise future seafarers' motivation to learn new information about their future career.

Our research has provided evidence that communicative teaching of Maritime English can be integrated with the content of profession-focused subjects. The structure and content of the recently up-dated Maritime English programme for Deck Officers at KSMA comply with the new occupational requirements as for training of future deck officers. The suggested teaching and learning activities are highly recommended for use to increase interest among Maritime English practitioners in the implementation of integrated approach.

The researchers and teachers shall continue their work upon interdisciplinary integration of Maritime English for more concrete teaching applications. To meet this educational challenge, it is advisable to establish a database of integrated teaching and learning materials to support the training process of future deck officers at maritime institutions.

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