STANDARDISING MARITIME ENGLISH TRAINING AND ASSESSMENT THROUGH INTERNATIONAL COORDINATION OF CONTENT-BASED INSTRUCTION

Abstract

The current provisions of the International Maritime Organization (IMO) Standards of Training, Certification and Watchkeeping (STCW Manila; IMO, 2010) for language proficiency and communication skills require standard levels for cadets’ communication skills worldwide, but do not suggest how to coordinate standardised Maritime English (ME) training and assessment across the globe in order to consistently meet these requirements. The responsibility for globally standardised assessment of cadet ME skills at Maritime Education and Training (MET) institutions around the world is therefore shouldered by the trainers only. This inevitably leads to differences in local interpretations of the ME standards. The central interest of the International Maritime Lecturers Association (IMLA) and the International Maritime English Conference (IMEC) is therefore to develop consistent assessment methods for cadets’ ME skills, which can be implemented worldwide. This paper explores current ME training practice worldwide, and suggests cross-curricular, content-based instruction as a solution for globally unified and coordinated standards of ME skills assessment.

Keywords: Maritime English, Maritime Education and Training, assessment, twinning, cadet competence, content-based learning.
1. Introduction

The aim of this paper is to explore current Maritime English (ME) training circumstances and the possibilities to standardise the assessment methods of cadets’ language skills worldwide. With reference to two integrated courses at the Marine Engineering Programme at Chalmers, Gothenburg, Sweden, this paper also suggests that cross-curricular, content-based instruction, so-called ‘twinning’ (Cole & Trenkner, 2012), can help to coordinate and align the assessment of cadet competence internationally.

The globalization of the maritime industry is one of the developments that has been instrumental in the international standardisation of training and the legal obligations of the Standards of Training, Certification and Watchkeeping (STCW) and the Convention on the Safety of Life at Sea (SOLAS) to teach ME worldwide and use it in ship-to-shore and ship-to-ship communications (Cole & Trenkner, 2012). However, despite established requirements from the International Maritime Organization (IMO) for standardised communication skills for seafarers, there is little support or guidance about how Maritime Education and Training (MET) institutions should actually teach and assess internationally equivalent ME skills (Weeks, 1997; Borucinsky & Pritchard, 2010; Cole & Trenkner, 2012).

Therefore, the European Commission’s Thematic Network on Maritime Education, Training and Mobility of Seafarers (WMU, 2003) suggests that language teachers could receive support from technical content teachers when assessing cadets’ language skills. For that purpose, content-based instruction practices should be developed and implemented in communicative language teaching and learning contexts (Brinton, Snow & Wesche, 1989; Cole, Pritchard & Trenkner, 2002; Spada, 2007). Cross-curricular collaboration between ME teachers and technical content teachers, a type of “tandem teamwork” also referred to as “twinning”, is also anticipated to ensure credibility and quality of trainers’ both content and language skills (Cole & Trenkner, 2012). Mirroring the above, the recently revised Model Course 3.17 for Maritime English (IMO, 2015) divides ME instruction into 1) General ME where all-purpose language proficiency remains the focus, and 2) Specific ME where the language ceases to be the real content of teaching, and simply becomes a medium of instruction. This openly suggests the implementation of content-based teaching into ME training as a solution to optimize training, learning, and assessment.

2. Maritime English – brief description of the current status

The maritime industry is a constantly expanding global business that depends on international collaboration to maintain and improve safety at sea. This requires good communication skills for both shore and sailing personnel. Consequently, scholars across the globe have long engaged in the development and application of the standardised language of the sea or the “entirety of all those means of the English language which being used as a device for communication within the international maritime community, contribute to the safety of navigation and the facilitation of the seaborne business” (Trenkner, 2000, p. 8). The improvement and the standardisation of communication at sea have been major

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concerns of the IMO through the International Maritime Lecturers Association (IMLA) and the International Maritime English Conference (IMEC). In addition, international standards for good communication skills at sea have been set and approved by the IMO’s 171 member countries. These standards must be implemented and consistently followed up and assessed by each national agency and training institution.

However, coming to a joint understanding of globally agreed standards is hard work when 171 member countries are involved. Furthermore, standardising methods of assessing their varied interpretations of these standards is even more complicated. In 2009, at IMEC 21 in Szczecin, Poland, the chair of IMEC, Peter Trenkner, commented on the expected provisions of the STCW Manila Amendments (IMO, 2010) with concern. The expectations of a good command of ME amongst cadets were not explicit enough, and the IMEC chair called for more precise requirements from the IMO to support unification of assessment in all MET institutions (Trenkner, 2009). In the same year, Trenkner and Cole published The Yardstick for Maritime English STCW Assessment Purposes (2009) to support the standardisation of ME assessment worldwide while pointing out several weaknesses in the international alignment of MET standards (Cole & Trenkner, 2009). Some of these weaknesses had been previously identified in their article Maritime English Instruction – Ensuring Instructor’s Competence (Cole & Trenkner, 2007).

Despite Cole and Trenkner’s efforts, in 2015, a number of prominent MET teachers and researchers still argued that “(...) over the past 25 years Maritime English has accumulated fourteen different definitions, with no consensus on content and scope” (Drown et al., 2015, p. 220). They claim that it is “a mixture of nautical and communication English and there is controversy as to whether it is for specific purposes or simply a terminology” (ibid). In spite of a clearly established definition and well-developed research within the curriculum, ME is apparently still very difficult to grasp from a teaching and learning perspective and therefore a challenging subject at MET institutions worldwide.

3 Some teaching and learning aspects of Maritime English

In order to understand why the definition and application of ME are topics of so many different interpretations, two aspects must be clarified. First, ME differs widely in use on land, at sea, within national and international administrations, military service, port state control, within commerce, education, and transport (for example). Because of the international setting of ME, all of its uses are shaped through intercultural exchange, mainly between foreign language speakers of English. Second, under these circumstances, one can assume that ME cannot belong to one nationality, or one classroom, or one maritime domain. On the contrary, as a language in service for specific purposes, it is explicitly linked to all the concepts and contexts of the maritime industry and its disciplines (Hutchinson & Waters, 1987).

A third, more generic aspect to consider is that of learning as a life-long (Illeris, 2007; Biggs, 2007), content-based (Brinton, 2003), meaning-oriented (Spada, 2007), and situated (Lave & Wenger, 1991; Bolhuis, 2003; Gustafsson, 2011) process. Learning is therefore the content-based outcome of the merging of different contexts (contents, situations, experiences) that engage our thinking skills in a certain situation, and involves both theoretical and practical knowledge that can be used to solve problems and to generate new learning (Bolhuis, 2003).
To sum up, the overall framework of ME is defined by international standards and legislation. These aim to facilitate communication primarily – but not solely – at sea. ME instructors must therefore be knowledgeable about the communication processes that take place in the seafaring setting, and they must also be able to identify suitable professional contexts that integrate various communication skills if they are to generate relevant learning activities to engage and develop students’ thinking skills. It is obvious that without support from technical content experts, this might be an overpowering challenge for ME instructors alone.

4. Maritime English training – challenges of standardisation

One of the first aspects to address when aiming to standardise ME assessment across the world is, as explained above, the complexity of the seafaring profession, which can apply to many different fields. Beyond language competence, the ME user (a speaker of English as a foreign language in most cases) must, for example, also be aware of intercultural communication aspects to efficiently adjust to multinational crews.

Another difficulty in meeting ME standards from a global perspective is that national legislation, on which local training is based, defines learning outcomes for cadets, whereas cadet competence levels are prompted by the international requirements of the IMO’s 171 member countries. Local legislation and requirements do not always mirror or accurately translate international counterparts. An ongoing, functional, and relevant international dialogue between IMO member countries is therefore imperative to make these two dimensions converge.

The third aspect that must be addressed in the broader context of ME training is trainer competence. Becoming a ME trainer requires neither internationally established nor certified competences (Cole et al, 2007; Cole & Trenkner, 2009). According to the project Profiling the Maritime English Instructor (PROFS; Cole et al, 2007), ME trainers are:

- Career specialists, which means they are graduates or qualified teachers, they have seafaring experience, they have a ‘reasonable’ institutional standing, and they may (or may not) be ‘qualified’ to teach ME.

- English language and literature graduates who are lovers of English, but do not necessarily understand applied linguistics. Usually they prefer to teach general English, but often fail to teach students adequate ME that meet STCW standards.

- Former seafarers who are technical experts, but not skilled in teaching language or in teaching methodology overall. Students are often over-challenged.

- Native speakers of English who are often employed on short-term contracts. They seldom have any experience of teaching, language concepts, or maritime contexts.

According to the STCW (IMO, 2010), each MET institution must take responsibility for ME tutor competence as recommended by the IMO, but none of the competencies above is in itself appropriate or sufficient for the teaching of ME. As the IMO provides no tools to help align trainer competencies internationally, MET institutions need to collaborate with each other to align quality assurance worldwide.
ME is defined and developed in maritime contexts; thus, assessment must relate to content-based instruction (Brinton, 2003; Cole & Trenkner, 2009; 2013). The ME trainer therefore faces additional difficulties due to the content-based requirements, which ME practices must adapt to. Hence, collaboration between language and content teachers can complement trainers’ different competence areas and it is advised that MET institutions support integrated, cross-curricular teaching praxis (Cole & Trenkner, 2012).

Finally, we can say that while the current provisions of the STCW (IMO, 2010) for language proficiency and communication skills include requirements for cadets’ competencies (Bocanegra-Valle, 2010), they do not include suggestions for how to coordinate or internationally standardise ME training and assessment in order to meet these requirements consistently. Theoretically, MET institutions are responsible for creating globally corresponding assessment methods for ME skills, as identified within the STCW, but in practice, this task is shouldered by the trainers only, and few have competence to stand up to legal challenges. The coordination and standardisation of assessment (Cole & Trenkner, 2009) remains therefore one of the main drawbacks of the cadet training worldwide.

Aiming to create consistency between national and international objectives, and to aid teachers in establishing reciprocal support for broader competence, the Marine Engineering Programme at Chalmers, Gothenburg, Sweden has implemented cross-curricular teaching and learning activities and assessment, as will be outlined in the following section.

5. Content-based instruction at the Marine Engineering Programme at Chalmers, Gothenburg, Sweden

The Marine Engineering Programme at Chalmers (Gothenburg, Sweden) starts at a post-secondary level (English CEFR level B1/B2) with classes of around 55 students, and it has been undergoing fundamental changes over the past few years (Eliasson & Gabrielli, 2011; Gabrielli, Gabrielli & Pahlm, 2012). These changes were mainly due to the need for a new structure of alignment at course level and programme level, as required by the Bologna process in Europe. However, these changes have indirectly enabled trainers to re-design courses and progressively integrate contexts of typical professional skills into aligned teaching activities throughout the programme.

The teaching of ME is integrated progressively in various technical content courses from year one to year four, aiming to provide authentic, content-based language instruction that students can easily recognize and identify with. Cross-curricular collaboration in course design and course development enables trainers to pool competencies and increase the impact of teaching and learning strategies, alongside assessment reliability, in each course. With mutual support, the language teacher and the content teacher can create more meaning-oriented course content than if the subjects were kept apart (Cole & Trenkner, 2002; Biggs, 2007; Spada, 2007).

The current programme is divided into basic/introductory courses, continuation courses, and advanced courses. For example, a basic technical content course in year one is Marine Engineering I. It integrates three different modules: engine room simulator sessions, relevant technical terminology (ME), and drawing techniques. The ME module, in this case, works
with vocabulary used in the engine room, or for drawing techniques, and combines these with general safety vocabulary used on board in various distress situations. In this way, the teaching of language draws directly on a technical context that is highly relevant for the students in their professional environment.

Another example is a continuation maintenance technique course in year three, in which language proficiency is assessed through a technical report and an oral presentation of the same topic. Here, the language and technical content teachers work very closely together with the design of course aims and objectives, and teaching and learning activities. Students’ language skills are jointly assessed, with language proficiency not being a direct course objective, but rather an integral aspect of communication used to convey content in the best possible way. Improvement in language use means, therefore, that students express technical content in a more accurate way, which in turn leads to more favourable assessment.

6. What students think they learn from content-based instruction – an outline

Two parallel, partly integrated continuation courses of particular significance for this paper are taught in the second year of the Marine Engineering programme at Chalmers. One is a technical content course (Steam and Cooling Plants – in Swedish) and the other is a communication course (Technical Marine English – in English). The setup of these is of particular relevance due to the notably positive feedback on the learning outcomes of content-based instruction that has been received from about 200 students over the last four years, as part of the course examination assignment. The student feedback (briefly exemplified below) can be interpreted as a positive reflection on the idea that content-based instruction triggers learning on several levels, and that it also enables students to identify and reflect upon what and how they have learned as a lead in a continuous learning process.

The second year Technical Marine English course is designed to develop the students’ written and oral proficiency, as well as their language accuracy in the maritime context. The parallel course, Steam and Cooling Plants, aims to provide knowledge about the construction, function, and operation of steam generation plants and refrigeration/ventilation plants as well as develop the ability to perform calculations of these plants.

One joint learning activity of these courses is particularly relevant here. The students are introduced to a technical content topic and given a chapter from a book to study in English. The content teacher provides the students with study questions about the chapter, but in Swedish. A mandatory seminar is arranged, with both content and language teachers present, in which the students are asked to discuss the ways in which they have interpreted the chapter and the questions, and to double check their interpretations as they try to settle for one ‘correct’ answer to each question. Later, as part of the examination assignment in the language course, students are asked to reflect upon the learning they think they have acquired due to the particular set-up of this course activity (Gabrielli, Gabrielli & Pahlm, 2012). The assignment does not mention existing correlations between language and content in this learning activity, yet students comment most often on language learning strategies that have been triggered by the ways in which this setting allows them to engage with content.
This paper does not aim to map 200 student reflections. However, a significant number of comments (almost all) connect language learning with the learning outcomes of the technical content course in some way, and content-based language instruction is found to be the common denominator of these comments. Some examples of student comments are displayed in the table below, and any reference to content-based instruction is marked in bold.

<table>
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<tr>
<th>Topic of comment</th>
<th>Quotation of student comment</th>
<th>Author’s interpretation</th>
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<tr>
<td>Meaning oriented language learning strategies</td>
<td>&quot;We also discussed that the text was interesting. Why this text felt more interesting than other texts we don’t really know. It is probably because we need to know the content of this text in steam and refrigeration techniques. It feels good to read something that we work with in another course; it makes it easier in both courses. Most group members learned a lot from this exercise.&quot;</td>
<td><em>Refers to language learning being meaningful if put in a relevant context/if dealing with relevant content (meaning-oriented learning).</em></td>
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<td>Life-long learning aspects of Maritime English in professional contexts</td>
<td>&quot;Certain fragments of the text were a bit difficult to grasp at first and you realize that learning all technical terms and expressions solely in Swedish has its limitations and impedes the learning process somewhat. With the help of the illustrative and pedagogic pictures, however, we were able to understand most of the content. Whatever lack of apprehension that still remained was easily mended by googling specific terms, that we struggled to fully understand. This exercise further stresses the importance of practicing not only grammar and “every-day” English skills, but also expanding your technical vocabulary. In order to become a successful marine engineer, working in a multilingual environment, merely being proficient in “regular” English is not enough, one must master the skills of advanced maritime English and have an extensive technical vocabulary. Of course with an ample understanding of other cultures and whatever obstructions and flaws in communication that may arise from cultural heritage and corresponding social patterns.”</td>
<td><em>Draws interesting parallels to learning strategies and processes, and puts language skills into perspective with focus on a future professional role (lifelong learning). Refers to the relation between content (or meaning) and register and how understanding of meaning depends on understanding of content.</em></td>
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<tr>
<td>The importance of language proficiency from a technical content perspective</td>
<td>&quot;One example is that no one in the group could explain what a gland steam condenser is. After a while we asked the trainer and we realized that we knew the answer but just could not link it. Sometimes you know something in Swedish but are unable to link it to the English language.”</td>
<td><em>Expresses the importance of register and how their ability to express details depends on an accurate register (content-based learning).</em></td>
</tr>
<tr>
<td>The importance of language proficiency in a situated context – meaning oriented learning</td>
<td>&quot;The way we worked with this text, first translating it from English to Swedish and then back again is probably the best way to work with a text. If you only rewrite the text in English, you usually steal words and sentences that you do not fully understand. If you only translate the text from Swedish to English you usually stay within the limits of To sum up we think that this text was a good exercise and we all see the connection to both Steam and Refrigeration Techniques and Marine English. The exercise helps the student to realize that despite we are all able to speak fluent English, we are unfamiliar with terms used in mechanical engineering your knowledge.”</td>
<td><em>Expresses a realization of how translating from two languages can challenge an understanding of concepts (situated-learning).</em></td>
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"To sum up we think that this text was a good exercise and we all see the connection to both Steam and Refrigeration Techniques and Marine English. The exercise helps the student to realize that despite we are all able to speak fluent English, we are unfamiliar with terms used in mechanical engineering.” | *The importance of register is discussed together with the fact that speaking English fluently may not be the same as being a good user of ME (meaning-oriented learning).* |
The correlations between language and content and how language determines and is determined by content

“We feel that the assignment is most relevant to the steam/refrigeration technique course. The reason for this being that the actual information, what is presented for us to learn, is information regarding steam & refrigeration technique. English is only a mean to convey that information to us, and if you understand what is written you do not pay all too much interest in the actual language. However if the reader is more knowledgeable in the field of steam-technique and less so in English, he would look more into the meaning of words and the grammar of the text.”

*Argues that language is merely a means to convey technical content, but improved language will help to convey content more accurately (meaning-oriented learning).

Table 1: Student comments with regard to learning triggered due to content-based instruction

From a ME perspective, the student comments show that content-based instruction can facilitate understanding of correlations between language and content, and legitimize accuracy in a professional context. The comments also show that due to the content-based conditions of this assignment, students can identify a direct relationship between ME and its relevance for understanding and conveying technical content. Integrating parallel course activities has generated, as is revealed above, easily identifiable learning outcomes for the students; when they are prompted to reflect upon their understanding of the relationship between language and content, they also understand ME skills from the perspective of their future profession and achieve greater awareness of the importance of language accuracy in the expression of content.

7. Conclusions and recommendations

Three different aspects in the process of standardising the assessment of ME skills have been identified in this paper: the complexity of the seafarer’s profession, the difficulty of making national and international standards consistent, and the overall arbitrary requirements for trainer competence across the globe. All of these aspects have a common point of reference, and that is content. Content-based instruction, or simply content as a common denominator, may help to identify professional boundaries, to recognise joint national and international interests, and provide meaning to language learning activities.

According to student comments, content-based instruction clarifies how student understanding and application of meaning (i.e., content) depends on student understanding and application of register. The students seem to acknowledge their (need of) improved use of register, due to an improved understanding of content. However, the register of the seafaring profession is the standardised language of the sea (ME). Implicitly, content-based instruction in this example helps to implement standards of communication in the technical curriculum in an evidently meaningful way. Therefore, when assessing student ability to convey content in an accurate way, student language skills are also being assessed. This can mean that the assessment of technical skills can be a tool to standardise the assessment of language skills.

Based on the above, this paper suggests that to standardise assessment, more content-based pedagogies that integrate language skills and technical content competence must be developed and this can only be accomplished if conditions are provided in which trainers
can develop ways to balance differences between IMO member countries. If teachers from several MET institutions, and preferably also from different countries, were given the opportunity to design joint teaching and learning activities that integrate ME in the local curriculum, then those activities would be based on a combination of national expertise and local understanding of international obligations. Implicitly, the learning outcomes of such activities would correspond, assessment-wise, between the countries involved.

Research and investments are therefore needed to firstly generate IMO moderated discussion forums for trainers around the world, and secondly to facilitate international trainer exchange and collaboration aimed at standardising syllabi and assessment procedures, based on an ongoing international dialogue. This can bring consistency to training programmes around the world, and implicitly also to cadet competencies worldwide.

Paraphrasing Logie (2001), ME instructors must think locally, with focus on the particular needs and prerequisites of their students, and on the implications of their national legislation for education programmes. They must also, at the same time, teach globally, addressing and implementing international standards in their assessment methods, with respect to the environment in which our cadets will eventually work. Investment and research are imperative to further develop this global approach.

8 References


