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TECHNIQUES TO INTEGRATE CRITICAL THINKING INTO MARITIME ENGLISH COURSE

Summary. In the article, the authors review some conceptions of critical thinking and highlight its importance for students. It is stated, that there are different approaches to the concept of critical thinking: the philosophical one which emphasizes on the features and standards a critical thinker must have, and the psychological approach which describes skills, behaviors and attitudes of a critical thinker. Techniques for integrating critical thinking into Maritime English Course are characterized, such as inquiry-based learning, case study, true-false statements, debates, discussion. To foster students' initiative questioning, authors have proposed uploading texts, audios, videos, nautical charts etc. on the learning internet platform Moodle and suggesting to construct a few tricky, problematic questions or those that can assist them in understanding a challenging content. It is concluded that to develop critical thinking students should be led to making use of their higher level cognitive skills.
Keywords: critical thinking, students, Maritime English Course, skills, case study, discussion.

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ТЕХНОЛОГІЇ ВПРОВАДЖЕННЯ КРИТИЧНОГО МИСЛЕННЯ У КУРС МОРСЬКОЇ АНГЛІЙСЬКОЇ МОВИ

Анотація. У статті автори розглядають різні погляди вчених на поняття критичного мислення та виділяють основні характеристики цього терміну. Зазначається, що існують різні підходи до концепції критичного мислення: філософський, який підкреслює особливості і стандарти, які повинен мати студент із розвиненим критичним мисленням, і психологічний підхід, який описує навички, поведінку і формування критичного мислення студента. Визначено, що критичне мислення – це процес аналізу, синтезування й обґрунтовування оцінки правильності інформації; здатність генерувати чи змінювати свою позицію на основі фактів й аргументів, коректно застосовувати отримані результати, приймати зважені рішення. Незважаючи на різнобічність поглядів та підходів до тлумачення критичного мислення, автори визначають спільні аспекти всіх визначень поняття критичного мислення, таких як: когнітивні навички, такі як інтерпретація, аналіз, оцінка, прийняття рішень відповідно до контексту; пошук відповідної та достовірної інформації; пристосування до ситуації та гнучкість щодо змін; цінності, такі як розсудливість, інтелектуальна цілісність і співчуття. Ключовими етапами формування критичного мислення є виклик (формування та постановка питань), осмислення (ознайомлення з новою інформацією), рефлексія (включення нових понять в уявлення). У статті зазначається, що розвиток критичного мислення у студентів морських спеціальностей – це важливий аспект не лише у професійній підготовці у вищому навчальному закладі, а і у майбутній професійній діяльності. Розвиток критичного мислення дає можливість активізувати мислення студентів, залучати їх до плідної бесіди, мотивувати до вивчення морської англійської мови, показувати різні точки зору, допомагає ставити свої запитання та формувати власну думку. Охарактеризовано методи інтеграції критичного мислення, які застосовувались на практиці у курсі морської англійської мови (метод навчання на основі запитань, кейс навчання, правда/брехня, дебати, дискусії).
Ключові слова: критичне мислення, студенти, курс морської англійської мови, навички, кейс навчання, дискусія.

Problem statement. Critical thinking is a central concept in educational reforms that call for maritime institutions to place a greater emphasis on skills that are used in professional careers throughout graduates` lives. It's also a central concept in reforms that question how teachers have traditionally taught and what students should be learning – notably, the 21st century skills movement, which broadly calls on maritime institutions to create learning experiences that equip students with the most essential and in-demand knowledge, skills, and dispositions they will need to be successful in higher-education programs and modern ships. As maritime higher education and job requirements become competitive, complex, and technical, scholars argue, students will need skills such as critical thinking to successfully navigate the modern vessels and process increasingly complex information.

Recent research and publications. In recent decades, a lot of important theorists, supporters and researchers have reviewed some conceptions of critical thinking and highlight its importance for education in general. It is a popular topic for research, debates, forums and conferences on the role of education in the need to help students develop critical thinking skills.

Retrospective analysis of the critical thinking development shows that the roots of critical thinking are as ancient as its etymology, traceable, ultimately, to the teaching practice and vision of Socrates 2,500 years ago who discovered by a method of questioning that people could not rationally justify their confident claims to knowledge.

In the 20th century, understanding of the power and nature of critical thinking has emerged in increasingly more explicit formulations. In 1906, William Graham Sumner published a land-breaking study of the foundations of sociology and anthropology, Folkways, in which he documented the tendency of the human mind to think sociocentrically and the parallel tendency for schools to serve the (uncritical) function of social indoctrination.

There are different approaches to the concept of critical thinking: the philosophical one which empha-

sizes on the features and standards a critical thinker must have, and the psychological approach which describes skills, behaviors and attitudes of a critical thinker. Some researches (R. Paul, L. Elder) argue that because of the complexity and intellectual history, of thousands of years and the great scope for its application, it is not wise to try one single definition of critical thinking that encompasses all the meanings, qualities and skills it really involves [4, p. 35].

R. Ennis defines critical thinking as a thoughtful and reasonable process whose main purpose is to make sensible decisions about what to believe or what to do [2, p. 5]. M. Tama states that critical thinking refers to a way of thinking that is able to justify a person's beliefs and may not be influenced unless the opposing argument is convincing [7, p. 64]. H. Siegel argues that critical thinking involves a process of evaluation and reasoned judgment and the willingness, dispositions and attitudes to living and acting by them. These scholars propose to assess the critical thinking in a special format, open-answer questions, which are described as being prone to a more efficient evaluation, when compared to the multiple-choice ones. They are useful to assess the cognitive dimension of the construct, but do not properly regard the motivational dimension; additionally, they restrain the expression of critical thinking, making it impossible to foresee how the subject will react in face of daily life challenges. By using open-answer questions, it is possible to identify which critical thinking skills are the most used, conferring better visibility to the student's reasoning. Nonetheless, there can be anticipated one difficulty here: assessing answers that were obtained with a more open format can be expected to be more time consuming and ambiguous [6, p. 18].

The proposals developed by R. Ennis encompass all critical thinking definitions mentioned above, which have common aspects such as:

– cognitive skills like interpreting, augmenting, inferring, analyzing, evaluating, making proposals, creating, and making decisions according to the context; seeking relevant and reliable information; being adaptable and flexible about changes.

– values like prudency, humility, intellectual integrity, and empathy.

The presence of cognition and values means that being aware of the context and being empathetic play a crucial role in being a critical thinker. Thus, cognitive skills and intellectual capacity are not highly useful if they are not aimed to meet the needs of a given situation or at least to improve its conditions [2, p. 4].

In addition, it is essential to clarify that critical thinking qualities are not always evident in the same way since they depend on the type of experiences as well as on the knowledge about the field of study and the context [4, p. 34].

R. Paul states that critical thinking entails many kinds of intellectual skills, including the following representative examples:

– developing well-reasoned, persuasive arguments and evaluating and responding to counter-arguments;

– examining concepts or situations from multiple perspectives, including different cultural perspectives;

– questioning evidence and assumptions to reach novel conclusions;

– devising imaginative ways to solve problems, especially unfamiliar or complex problems;

– formulating and articulating thoughtful, penetrating questions;

– identifying themes or patterns and making abstract connections across subjects [4, p. 36].

The purpose of the research is to outline the techniques for developing maritime students' critical thinking skills.

Presentation of the main material. Critical thinking isn't specified as a necessary skill in IMO Model Course 3.17 «Maritime English» [3]. Thus, for a teacher, the term 'critical thinking' may sometimes seem too distant and vaguely perceived; in reality, though, it covers anything from asking questioning to developing projects. The basic issue here is how to do that.

Our one-year research is based on designing and implementing learning tasks for a group of maritime students in their fourth year of study. The idea through the research was to practice one learning method after another in succession, finally having a bundle of them masterfully used by the students.

Previously, we, as a group of Maritime English teachers, were working on issues of teaching communicatively emerging to be efficient facilitators of student communicative learning. Their communicative competence characterized by fluency and appropriateness help teachers foster students' active involvement into using and developing their critical and reflexive thinking.

As it is well realized from the Socrates' times, pondering over questions is the initial step to develop critical thoughtfulness. By exposing students to a series of provocative questions it might be possible to trigger their responsive criticism of the professional aspects suggested. Among those were questions of the type «What are pros and cons of…», «Why didn't …», «How similar / different are…», «How would you prioritize / classify / …», «How would you perform if you were Chief Officer / Master…», «Can you agree that…» etc. Such questions help investigate reasons of actions, generate and evaluate alternatives, select the best ways of doing certain things.

Such questioning can take place at any lesson stage – be it a pre- or post-reading / listening / viewing discussion, the start-of-a-lesson discussion – anytime will do.

The other way out, that is students asking questions, was one of the research interim objectives. Our idea was to practice inquiry-based learning as one of effective techniques to enhance critical thinking. No doubt, a teacher can initiate the first question in a discussion, but we foresee the teacher's role in provoking students' own questions for mutual learning and mastering a certain competency.

The initial efforts to trigger students to ask questions were taken in the course books developed by our English teachers as well as at the production stage of communicative lessons, especially while listening to presentations of group-mates.

To foster students' initiative questioning, we have implemented uploading texts, audios, videos, nautical charts etc. on the learning internet platform Moodle and suggesting to construct a few tricky, problematic questions or those that can assist them in understanding a challenging content.

For example, when teaching students to summarize the rules of handling dangerous cargoes covered in the IMDG Code, we uploaded a text for listening with the task to write three or more questions about cargo segregation. The following lesson would start with the technique «Ask three», i.e. students have to discuss their questions with three other students prior to discussing them with the teacher.

Inquiry-based learning requires skills of formulating questions of different cognitive level. A possible option is to familiarize students with Bloom's taxonomy. Another option is to get them used to asking various types of questions by presenting a list of critical thinking question stems and sequentially choosing a certain type to practice.

Analyzing cases based on maritime accident reports is a great way to develop students' critical thinking. They can be of, at least, two types – mini / synopsis and narratives. Here, the question types, described above, are of applied character as they help students develop critical understanding of real life facts.

In our practice, students are used to going through the following set of discussion activities followed by questions and tasks:
– developing well-reasoned, persuasive arguments and evaluating and responding to counter-arguments;
– examining concepts or situations from multiple perspectives, including different cultural perspectives;
– questioning evidence and assumptions to reach novel conclusions;
– devising imaginative ways to solve problems, especially unfamiliar or complex problems;
– formulating and articulating thoughtful, penetrating questions;
– identifying themes or patterns and making abstract connections across subjects [1, p. 143].

Having discussed the proposed set of questions, it's also practicable to present the investigators' conclusions to students for their better understanding of certain professional issues and comparing the lessons learnt with the students' critical approach.

True – false statements is a common technique used by teachers through years. The failures to make them applicable in developing critical thinking are seen in 1) using the same or synonymous wording both in the statements and in the text read or listened to; 2) dipping students into dwelling on obvious or primitive things, for example, «You can find the list of Dangerous Goods in Volume 1 of the IMDG Code»; and 3) demanding a brief response if it's true or false without any critical justification of students' choice; the latter clearly reveals their appropriateness for written or computerized tests on checking reading skills.

To overcome the humdrum nature of true – false statements, we would strongly recommend using «fact or opinion» activities as they enhance critical skills when students practice reading, listening, viewing, or discussing topical issues. The initial step here is to 1) help them realize that facts can be proved while opinions cannot; 2) familiarize them with certain markers or signal words: those are 'confirm, report, investigate etc.' for facts and 'consider, think, imagine, believe etc.' for opinions. Some examples from our lesson handouts: «Some people think that project cargo is easy to stow and secure because it is usually not numerous on the vessel»; «In its booklet, P&I Club points out that hard sea-fastenings are effective for sliding restraint of larger items, but generally only useable once». The teacher's role here is in leading students to characterizing those facts and opinions, expressing individual attitude to them, and, ultimately, to determine how they relate to one another, using students' ability to reason.

To develop critical thinking, students should be led to making use of their higher level cognitive skills. According to Bloom's taxonomy [5], among those levels, practicable for developing critical thinking, are analyzing and evaluating. A possible approach, especially after having taught students the very basics of a topic, to formulate lesson objectives by using the verbs listed for developing critical thinking, some of them being analyze, categorize, classify, compare, distinguish, criticize, deduct, prioritize, select and the like. Some examples of the lesson objectives are: by the end of the lesson you'll be able to compare hazards for crew on different tanker types; by the end of the lesson you'll be able to select the types of dunnage for specific heavy lift cargoes; by the end of the lesson you'll be able to distinguish between emergency response in case of fire and spillage.

Debates, understood as presenting opinions for or against an idea, decision, action with adequate reasoning, is a dynamic activity on the problematic issues connected with a lesson topic, a text, professional or global challenges. Conducting a debate isn't complicated if your students are used to free discussions and free expression of their opinions.

Normally, a study group is divided into two teams («For» and «Against») plus one or two juries to conduct the debates and come up with their decision about the winning team. There can be two options of how to form the teams – either to divide students according to their true beliefs (the teams, then, might be of different size) or to simulate their real attitude in this case, the team can be of the same size). We believe the latter version is better for developing critical thinking as, by simulating, students can try to perceive the reasons that people with contrary views can have. The debate is commonly organized in four stages: 1) each team discusses possible argumentation to support their statement/conviction; 2) sitting in lines opposite each other, Team 1members, in turn, produce an argument followed by a counterargument from Team 2 members» (where time limits should be set up); 3) the judges comment on the performance and name the team with more convincing arguments a winner (with possible prizes, if any); 4) each team discusses its performance and lessons learnt.

There's a risk of confusing statements for discussing and those for debating. A discussion is around a statement or a question, a debate requires a statement with two opposing opinions, visions etc. The statement «Goods may be dangerous even if not listed in the regulations» is, by no means, possible for debating as there are no opposing statements; it may be appropriate for discussing, though. An example of a statement for a debate is «The Carrier is exclusively responsible / partially responsible for any accidents with dangerous cargoes during voy-

age» where one team provides arguments in support of the Carrier's exclusive responsibility and another team – arguments in support of the Carrier's partial responsibility.

Group work tasks provide endless opportunities for promoting students' critical thinking. In small groups, students are given goal-oriented assignments that require analysis, argument, and solution on a professional problem, issue or case. The necessity to find reasons, evidence, listen to individual students' hypothesis, come to a certain level of consensus provokes critical approach to facts and ideas. Such exchange of approaches and opinions is based on problem resolution talks which are also a profound evidence of any language deficiencies prompting the teacher the necessary correction steps. «Select the best alternative of the situation», «Outline the possible consequences of the suggested action plan», «Detect Chief Officer's initial incorrect considerations about securing the mobile substations» are all examples of analytical tasks that check students' level of mastering the topical content and, concurrently, engage them into the process of critical thinking.

The same or less voluminous tasks, given to pairs of students, can provide more critical responses and, thus, more further discussions and rating activities. A technique, usually appealing to students, is to use paper strips with contradictory or controversial questions. In a mingle activity, each student is given a task to compare his/her solution to the question with a few other students in a limited time, later analyzing the differences and their possible explanations. Alternatively, the questions can be developed and written on paper strips by students themselves that fosters students' motivation to study the topical materials with a deeper approach and genuine interest.

Conclusion. Teachers of Maritime English have to work on students' understanding and applying the language taught and learned as these skills are subject to testing, but it's equally important to take them up to higher order thinking skills. Critical thinking, being one of them, is of great importance for future seafarers as they need to analyze miscellaneous situations arising on board ships daily and make decisions about them. The key to implementing activities to develop students' critical thinking is the teacher's will and intention to do it as well as his/her knowledge about the techniques to enhance critical thinking. In this research, we touched on the techniques to develop critical thinking skills by means of oral activities. To use writing as a valuable critical thinking tool is also worth considering.

References:
1. Bobrysheva N., Boiko K., Kudryavtseva V., Moroz O. (2019). Seven Seas Ahead. Kherson : STAR.
2. Ennis R. (2009). Critical Thinking and Subject Specificity: Clarification and Needed Research. *Educational Researcher*, vol. 18, № 3, pp. 4–10.
3. Model Course 3.17 Maritime English (2000). London : International Maritime Organization (IMO).
4. Paul R., Elder L. (2006). The Miniature Guide to Critical Thinking Concepts and Tools. London : Foundation for Critical Thinking.
5. Shabatura J. (2018). Using Bloom's Taxonomy to Write Effective Learning Objectives. URL: https://tips.uark.edu/using-blooms-taxonomy (Last assessed: 10.05.2019).
6. Siegel H. (2001). The Generalizability of Critical Thinking. Educational. *Philosophy and Theory*, vol. 23, № 1, pp. 18–30.
7. Tama M. (2009). Critical Thinking has a Place in Every Classroom. *Journal of Reading*, vol. 33, № 1, pp. 64–65.