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DEVELOPING CRITICAL THINKING SKILLS THROUGH THE "CASE STUDY" TEACHING METHOD IN MARITIME ENGLISH LANGUAGE TEACHING (MELT)

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Abstract. The importance of getting maritime students to think for themselves is essential for becoming professional seafarers in the marine industry, as in the twenty-first century, critical thinking skills strongly reflect on the quality of performed professional duties and impact on safe navigation at sea. One of the helpful methods to develop such skills while learning English is the "Case Study" method. Based on the results of the research conducted by BSMA English language teachers and backed by statistical analysis, the paper is focused on the role of critical thinking and the case study method in English language teaching during the classes, showing how it can be used to achieve a proper understanding of ideas, and different means of communication. In this work, we demonstrate the "case study" impact on English language teaching, which makes the learning process more effective and engaging.

Keywords: analysis; research; thinking; skill; case; maritime

Introduction

It is not easy to become a professional in the maritime industry. To achieve this goal, one needs to master theoretical knowledge, acquire lots of training and practice and, of course, develop cognitive thinking skills (remember, understand, apply, analyze, evaluate, and create) according to the taxonomy of thinking skills by the American educational psychologists David Krathwohl and Lorin Anderson. Such concepts are present in almost all areas of education. English language teaching (ELT) is no exception (Wilson 2016).

1. Krathwohl and Anderson's taxonomy of thinking skills

As we know, the taxonomy of thinking skills is based on Bloom's Taxonomy, where six cognitive levels are arranged in order from lower to higher, and a classification of learner behaviors is given in the cognitive domain.

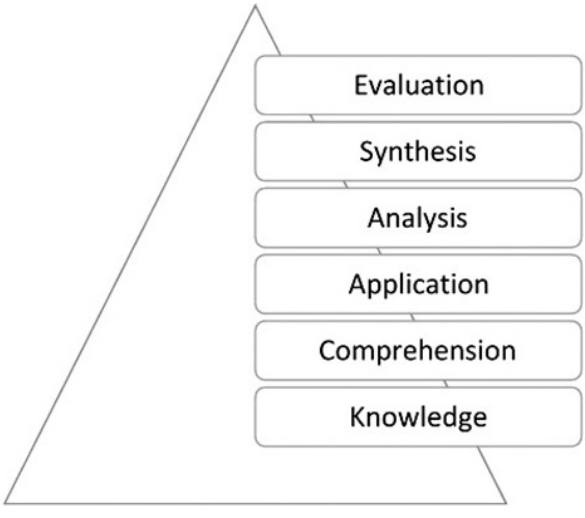

Figure 1. Bloom's original taxonomy

In 2001, American educational psychologists David Krathwohl and Lorin Anderson revised Bloom's original taxonomy by classifying different thinking

Table 1. Krathwohl and Anderson's taxonomy of thinking skills

Cognitive Processes

Remember→ ↓	Understand→ ↓	Apply→ ↓	Analyze→ ↓	Evaluate→ ↓	Create→ ↓
Remembering e.g. students are able to define the words and/or answer the questions that elicit key words/terms and facts.	**Understanding** e.g. students understand and are able to construct meaning by connecting new knowledge with existing one.	**Applying** e.g. students are able to use the newly gained knowledge (e.g. phrases, terms, etc., from different sources), usually in a controlled way - similar situations and contexts.	**Analyzing** e.g. students are able to break materials, concepts into separate parts and determine how they interrelate or relate to an overall structure or meaning.	**Evaluating** e.g. students, after analyzing the material, are able to make an assessment, judgment based on their own or someone else's criteria. The best solution is done by discussing different arguments.	**Creating** e.g. students are able to synthesize knowledge by creating something new and original using language and concepts they have learned.

skills with verbs rather than nouns. The six cognitive levels are still arranged in order from lower to higher, as in Bloom's original taxonomy. The first three types of thinking (remembering, understanding, and applying) are known as lower-order thinking, and the rest of the three - (analyzing, evaluating, and creating) as higher-order thinking. Each of them is an important element of learning in its own way to achieve the goals (Dummett & Hughes 2019).

We don't teach the students just to pass the tests and receive the grades. We must teach the English language not only to know a good amount of vocabulary and perfect grammar, to improve their listening, speaking, reading, and writing skills, but we teach them how to learn and think for themselves, to communicate and act correctly while performing their professional duties. So, to transfer only knowledge is not enough for maritime students to present themselves as professionals. We should teach them how to think properly as well.

As we see, students must work out different thinking skills while learning the English language. If we look through Bloom's original taxonomy and Krathwohl and Anderson's taxonomy of thinking skills one more time, we can see that they are of three types: basic comprehension, critical thinking, and creative thinking. All these types play a significant role in learning and teaching and may appear at different aspects within a lesson, but not necessarily in any particular order (Dummett & Hughes 2019).

2. Maritime Case study method in MELT

The Internet and the growing importance of digital and media literacy to the future workforce mean that it is not easy to predict what future skills exactly will be required in today's maritime field. But due to them, those who frame educational curricula and programs can be focused on the development of thinking skills rather than on the accrual of knowledge.

The importance of getting maritime students to think for themselves is essential for becoming professional seafarers in the marine industry, as in the twenty-first century critical thinking skills strongly reflect on the quality of performed professional duties and impact on safe navigation at sea.

How can learners develop such skills while learning English? There is a wealth of English language teaching materials and methods which may be conducted during the teaching in the classroom, like problem-solving, discussion methods, debates, written exercises, questioning techniques, presentations, etc., where learners can develop not only writing, reading, listening, and speaking skills but also thinking skills. However, we think that for future seafarers one of the important and useful methods, among others, is the "Case Study" method.

The maritime case is based on real-life scenarios and generally presents a narrative content of accidents at sea accompanied by questions and appropriate activities that promote group discussion and solving of different level problems.

"Maritime Cases" include writing tasks that begin with a critical evaluation of a written case, grammar analyses using inductive methods, reading tasks that combine the synthesis of information or ideas, and speaking tasks that involve, conduct learners to consider their own and also other learners' assumptions about a topic.

Maritime Case studies presented and worked on in groups engage the maritime students and enable them to apply theory to practice and improve decision-making skills on specific problems. So, all the above mentioned reflects on the students and increases their motivation to participate in class activities, which therefore promotes better learning and reflects on learning outcomes.

The general model (structure) of the maritime case is the following:

– The first part - "What happened?" (Remembering and understanding), here is the case itself. After reading this part of the case, students remember and understand the facts given in the case.

– The second part – "Why did it happen?" (Applying and analyzing), here the possible reasons for an accident are given. After familiarizing themselves with the first part of the maritime case, students apply and analyze the newly gained knowledge by discussing it in groups.

– The third part – "What did we learn?" (Evaluating and creating), here the possible actions for avoiding the accident are given. After applying and analyzing the given reasons in the second part of the case, students evaluate the case by discussion in groups and then try to create a new scenario of the existing case showing the possible ways to avoid the problems described in the case.

During the first semester of the 2022/23 academic year, BSMA English language teachers did some research/studies. We chose eight groups of 3rd-year students from both faculties. Four groups - from the Engineering faculty 1A (25 students), 1B (25 students), 2A (25 students), and 2B (25 students), and the other four groups- from the Navigation faculty 3A (27 students), 3B (27 students), 4A (23 students), and 4B (23 students). 200 students in total (100 students – Engineering faculty and 100 students - Navigation faculty). The English level of students in all groups was B1. The groups from each faculty were given the same topic/material to study, but during the classes, only "A" groups (1A, 2A – Engineering faculty and 3A, 4A – Navigation faculty) were working through the "Maritime Cases" appropriate to the covered topic/material.

The studies show that:

while working on the maritime cases, the students have developed not only thinking skills but also other important skills besides listening, speaking, reading, and writing:

– Asking questions, sharing ideas, and brainstorming solutions help the students develop critical thinking skills by allowing them to analyze the situation, identify problems, and propose solutions.

– Working in groups to discuss the case by sharing perspectives and solutions helps the students to improve not only critical thinking skills but also foster teamwork and communication skills.

– Summarizing the main points, and presenting their own analysis and solutions to the class, help the students develop their public speaking and presentation skills as well as receive feedback and constructive criticism from group mates.

– Case study class activities make the students more energetic, and open-minded, sharing their own ideas and opinions easily.

Based on the results of the student's final exams, we discovered that finding the solution to the critical thinking questions became easier for those students who were working on the "Maritime Cases".

According to the results of the research and based on statistical analysis, we can say that the students from groups "A" (1A, 2A – Engineering faculty and 3A, 4A – Navigation faculty), who were presented the "Case" appropriate to the topic studied during the classes, remembered, understood, applied, analyzed, evaluated, and created the information from the material learned much better and in a shorter period than the students from groups "B" who didn't have the "Case Studies" during the classes appropriate to the subject matter.

Table 2. The statistical distribution of Critical Thinking Skills development through the "Case Study" Teaching Method among BSMA students (groups 1A, 1B, 2A and 2B – Engineering Faculty)

Critical Thinking Skills	Group 1A	Group 2A	Group 1B	Group 2B
Remember	82	64	89	76
Understand	86	67	83	71
Apply	73	55	75	60
Analyze and Evaluate	76	55	70	43
Create	60	30	64	34

Table 3. The statistical distribution of Critical Thinking Skills development through the "Case Study" Teaching Method among BSMA students (groups 3A, 3B, 4A and 4B – Navigation Faculty)

Critical Thinking Skills	Group 3A	Group 3B	Group 4A	Group 4B
Remember	85	70	81	60
Understand	79	68	80	66
Apply	79	55	76	52
Analyze and Evaluate	68	50	68	45
Create	67	40	60	41

Conclusions and summary

As we see, the given paper is focused on the role of critical thinking and the case study method in Maritime English language teaching during the classes, showing how it can be used to achieve a greater understanding of individual words and sentences, of longer pieces of discourse, of ideas, and of different means of communication, improving decision making skills regarding the specific problems and solving them. Case study class activities make the students more energetic and open-minded. When working in groups, students improve not only critical thinking skills but also foster teamwork and communication skills. Presenting their own analysis and solutions to the class helps the students develop their public speaking and presentation skills. So, all the above-mentioned has an effect on the students and increases their motivation to participate in class activities which therefore promotes better learning and also reflects on the student's learning outcome.

Throughout this work, we demonstrate how the "Maritime Case Study" method impacts on English language teaching and makes the learning process both more effective and more engaging for both students and teachers.

NOTES

1.THE INTERNARIAL MARITIME ORGANIZATION, *IMO. Lessons learned English*. Web site. Available from: https://www.imo.org/en/OurWork/MSAS/Pages/Lessons-learned.aspx. [Viewed 2023-05-04].

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