PARADIGMATIC VIEW ON DEEPER LEARNING OF MARINE ENGLISH

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The importance of Marine English deeper learning is actually proven by the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers (1978, 1995) and its Manila amendments (2010). In compliance with STCW professional training of marine cadets in maritime institutions of higher education should be accomplished in English, as this language is acknowledged to be a working language on ships, especially in multinational crews. In order to correspond to high world standards training of marine engineering should be accomplished on three levels: the 1st is the support level (ratings, wipers, oilers, fitters, the 2nd and the 1st class motormen, forming a part of engineering watch); the 2nd operational level (officers in charge of an engineering watch in a manned or periodically unmanned engine room) and the 3rd management level (chief engineers and the 2nd engineers on ships with the main propulsion machinery of 3000kw). On each training level cadets have gradually master a certain number of competencies: 13 – on the support level; 17 – on the operational level; 14 – on the management level. Besides, acquiring of each competency by the marine engineering cadet must be confirmed with his learning outcomes in form of correspondent individual professional skills, including relevant communicative skills in English. So as the mentioned skills are of more psychologically complex nature, to foster the process of their formation the use of proven communicative and competency-based methods appears to be not enough. Here in our opinion more effective and helpful may be a number of technologies of deeper English language learning, as blended learning, flipped class learning, critical thinking learning, effective communication learning, big picture learning, collaborative learning, inquiry-based learning and some others. I.e. the objective of this article will be to carry out paradigmatic view on deeper learning of Marine English, which may foster the process of all necessary for the 21st century marine engineer communicative and professional skills formation.

A number of studies viewed by us testified that deeper learning of English fosters not only communicative competence of future professionals, but provide students with skills and knowledge they need to be successful in work and civic life. [1: 13].

In education deeper learning came from the US pedagogy. Comparatively new, this type of learning makes emphasis more on students’ educational outcomes in form of skills like analytic reasoning, complex problem solving and teamwork, rather than on robust core academic content.

Idea of deeper learning was initially promulgated by American philosopher, psychologist and educational reformer (John Dewey (1859-1952) who believed that students thrive in an environment where they are allowed to experience and interact with the curriculum and all the students should have the opportunity to take part in their own learning.
According to labour economist Frank Levy and Richard Murnane, since 1970 with age of technology revolution and economy globalization deeper learning like complex thinking and communication skills has soared greatly.

A 2006 Conference Board survey of some 400 employers revealed the key deeper learning competencies: oral and written communication, critical thinking, problem solving, and teamwork spirit for collaboration.

Later, in 2010, “deeper learning” outcomes were described by William and Flora Hewlett Foundation as:

✓ Mastery of rigorous academic content;
✓ Development of critical thinking and problem solving skills;
✓ The ability to work collaboratively;
✓ Effective oral and written communication;
✓ Learning how to learn;
✓ Developing and maintaining an academic mindset.

The outcomes listed are essential for future seafarers of the international trade fleet, as they must be able to work collaboratively in multinational crews, be able to apply mastered by them academic content and apply relevant critical thinking and problem solving skills. All these they must do using effective oral and written communication in English, because on vessels of foreign ship-owners they must use English language as the only working language. Besides all seafarers must be able to learn in English, how to improve their skills and grow professionally.

In order to introduce the paradigm of Maritime English deeper learning we used the 2012 report Education for Life and Work of National Research Council [2], which identified the following research-based methods for developing deeper learning:

- Use multiple and varied representations of concepts and tasks;
- Encourage elaboration, questioning and self-explanation;
- Engage learners in challenging tasks with supportive guidance and feedback;
- Teach with examples and cases;
- Prime students motivation;
- Use formative assessment.

Each of this items have been tried by us in period of 2019-2020 experimental study and was proved to be extremely important and contributing for getting of high level outcomes. Though, other pedagogical practices of deeper learning, as cooperative learning to develop collaboration, graphic organizers to advance critical thinking feedback to sharpen communication, metacognition, reflection, questioning appear to be also very successful and we will apply to them as to supplementary methods of deeper learning.

For every deeper learning teacher, never mind of what subject, it’s very important to be aware of three domains, which provide paradigm of deeper learning, outlined in the research of Pellegrino, Hilton, Herman et.al. (2012) [3]:

- Cognitive: students develop a strong academic foundation in different subjects and skills to transfer knowledge to other situations or tasks. Thus, they learn how to think critically, synthesize and analyze information and solve problems, assess or evaluate the effectiveness of the proposed solutions.
- Interpersonal: students learn to work collaboratively to complete tasks, share work, understand, communicate and solve complex problems together.
- Intrapersonal: students learn to monitor and direct their own learning, recognize what they still don’t know, identify the obstacles or barriers to their success, determine strategies to address challenges.
Each learning technology should be provided by means of coherent teaching strategies. As we were looking for the most congruent for deeper learning teaching strategies, in focus of our attention has trapped six strategies and pedagogical practices of Drs. Martinez and McGrath [4, P.5], which decently contribute to students’ deeper learning outcomes development:

- Empower students as learners with their specific learning strategies, pace, motives, who need regular feedback, revision, reflection;
- Contextualize knowledge so it is coherent through utilization of different learning subject resources and apply them to other situations and problems;
- Connect learning to real world experiences by interacting with professionals and experts in relevant fields;
- Extend learning beyond the educational institution to authentic places and contexts for learning;
- Inspire students by customizing learning experiences to pursue their own learning;
- Purposefully incorporate technology to enhance (not automate) learning.

Besides these teaching strategies for successful deeper learning of maritime engineering cadets we established a certain deeper learning culture in order to reinforce core values and expectations. For example, we used such slogans as: Be accountable; Work ethically; Build community; Work collaboratively; Pursue: Do your personal best etc.

These shifts in learning culture and teaching roles require from teachers to collaborate a lot and our teachers were all the time drawing upon each other’s expertise, designing or revising meaningful learning experiences for students, sharing scaffolding resources with each other or by presenting a lesson, a project to one another for getting feedback.

The experiment in deeper learning implementation in academic process of maritime institution revealed that teachers move easily between their roles, different approaches and techniques based on their students’ learning needs and goals in such flexible educational environment.

To the mind of George M. Jacobs, this symbiosis of students deeper learning strategies, a new learning culture and non-specific roles of teachers (strategist, designer, facilitator, coordinator, networker, coach, counselor or mentor) causes noticeable shift in the entire pedagogical paradigm from positivism to post-positivism [5]. Among those listed paradigm shifts we consider the next to be the most remarkable:

- emphasis on parts shifts to the whole context;
- emphasis on separation shifts to integration;
- emphasis on general shifts to specific;
- attempt to standardize shifts to appreciation of diversity;
- focus on the process shifts to focus on the process etc.

Eventually we can conclude that experiment in deeper learning of Marine English by marine cadets affirmed positive characteristics of a new pedagogical paradigm. Taken together, the deeper learning competencies result in students’ ability to use and apply what they have learned. This ability, known as knowledge transfer, is widely recognized as critical to succeed at new tasks and contexts. Together with academic knowledge students develop metacognitive abilities and intrapersonal skills, learn how to learn using English as means for critical thinking and problem solving. As the result, students engage in positive and productive academic activity and persevere when face difficulties. Three core components of deeper learning: feedback, revision and reflection encourage students to understand better the amount of effort required to produce high quality work.
THE PROBLEM OF THE EFFECTS OF TASKS ORDER ON THE TEST RESULTS: A BRIEF OVERVIEW OF THE RESEARCH

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The effect of the order of tasks in the test on the test results is currently a debatable issue due to the ambiguity of the conclusions of numerous studies carried out taking into account the specifics of a particular field of knowledge (subject). At the same time, this issue is important given the need to ensure the accuracy of assessment of student achievement (both current and final) with the use of test technologies.

It is traditionally believed that the organization of tasks from the easiest to the most difficult contributes to their successful solution [2; 3]. However, such conclusions can be confirmed or refuted only with additional testing conditions, in particular, the limitation of time to perform the test; the possibility or impossibility to perform tasks in any order during testing (for example, to return to the previous task); the range of topics on which the survey is conducted [1].

Placement of tasks taking into account their form (closed and open) is also associated with different complexity of tasks of different forms, which in turn