

Deep awareness as a factor of environmental motivation at sea

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Abstract. There are environmental problems at sea and some of them are specific. The International Maritime Organization is on the way of strict controlling permanently intensification regulations. One of the most important of them is the International Convention for the Prevention of Pollution from Ships (MARPOL). To prevent uncontrolled and undesired actions of seafarers officers are interested in strong methods including motivating others and themselves as leadership skills are requested by practice and the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers (STCW). After considering different types of motives, factors in/decreasing their effectiveness existing at sea, the authors developed the practical research, analyzed the revealed data on the nature of the dominating motives among cadets of the Maritime University and the seafarers, and concluded highly developed awareness of the existing pollution at sea. Established forming experiment proved that the deep awareness of environmental problems adds to the inside, the strongest environmental motivation to fallow International regulations, acceptable from both behavioral and self-controlling points of view. Further actualized professional self-organization strategy helped to educational ecological project development, which were involved in the working courses.

1 Introduction

The oceans and seas are known to be in danger as they are polluted with nuclear and industrial wastes, chemical fertilizers and pesticides. Despite of a number of efforts pollution from ships' accidents with oil happen from time to time and there is a strong destruction of sea life. The higher seafarers are motivated to the environmental behavior the less uncontrolled and undesired actions will occur.

Another specific sea factor of environmental pollution is known to be acoustic. Shipping noise, echo sounders and electromagnetic radiation have contributed to damaging the acoustic habitats of ocean creatures. It can damage whale acoustic habitat. They need this for breeding, finding mates and feeding grounds. Although there are no laws governing acoustic pollution to cope with the most types of sea pollution, Maritime Society has established a special set of rules. The most important, international and primary of them is MARPOL convention [1]. It provides seafarers with minimum but strict requirements and

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measures in a form of well-ordered regulations designed to prevent pollution from ships caused both accidents and in the course of routine operations.

There are many reasons to follow MARPOL convention. They depend on many factors. Whereby there is quickly evaluating smart content to control environment on land [2] and at sea [3], human factor, experience and practice are still to stain vital [4]. Officers' leadership skills propose deep knowledge of motivation influencing factors. Whereby deep awareness is known to intent thoughtful actions, vigilance and it is one of the most motivational to follow onboard regulations.

Shipboard life is extremely specific. There are many external reasons like weather concerns, ship's motions, changed time and climatic zones, unfavorable working conditions like permanent noise, magnetic field and vibrations produced by the ship, piracy fears; separation from families, work overload, limited space and lack of social life. All these factors and a number of others, like erratic sleeping schedule, excessive working stress, unavailability of fresh food, and inadequate medical facilities drastically affect seafarers. It can result in lowered moral, conflict, physical and mental health issues, increased human error, accidents, lifestyle illnesses, lowered productivity, burnout. Seafarers need to have strong support and motivation, be adequately equipped to their professional self-organization. [5]

Every maritime cadet dreams prepare themselves to be a leader not only because of the leadership is required according to the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers [6]. They recognize the high-level responsibility of everybody for the entire result taken by their crew, which works like a well-adjusted mechanism. Leadership means the process of directing and influencing the activities of others to achieve desired outcomes. It is an influencing factor on board a ship. [7] It requires a number of highly developed skills and abilities and not least of them is the competence of motivating people to be responsible and work effectively. Motivation is an individual's reason or willingness to provide additional effort to achieve a given outcome. Only if the leader is well motivated, self-organized and purpose-oriented he is able to motivate others. An effective officer needs to understand the own core professional wants and ambitions as well as the crew ones and provides the opportunity for them to be met within the workplace whilst also achieving organizational objectives.

There are many aspects of motivation. It is an important quality, which is essential for junior officers as they are interested to develop and master their leadership skills. When motivating somebody, the officer feels to be more productive and effective and he is deeper satisfied with the work. Whereby a positive and significant impact of person-job fit on seafarers' job satisfaction has been proved. [8]

There are different types of motivation. Well-designed algorithms are valuable mechanism at the early stage of professional development [9]. They are especially helpful if there is deep awareness of the subject. From the Psychological point of view, they can be inside or outside, intrinsic and extrinsic, positive or negative, stable or unstable. They are under influence of many factors like leadership styles which have significant impact on employee motivation. [10] While all types of motivation are important, they have different effects on how people work. Internal motives are beneficial when people need to deal the work they might normally find unpleasant. Intrinsic motives are able to add to the satisfaction of the achievement purposes. Both, intrinsic and internal motives are effective in cases of ecological behavior as they add to sensitive ownership.

Positive and negative motivations are opposite assessments of the same situation. When expecting rewards and reached results, people are on positive motivation. We mean negative motivation if they are driven by the fear of potential risk or punishment. The motive type effectiveness depends on the individual features of people involved into the work and the situation itself. The extrinsic and negative motivations are proved to be

sometimes effective. However, they may ultimately lead to increased tension and even work burnout. Stable motivation is based on people's needs, it doesn't require permanent outside encouragement as opposed to unstable one. An effective officer will have to understand the core needs/ wants/ ambitions of the crew as the essential part of motivation. As the cadets are prepared to work in the international industry, where the working language is English, many courses as well as test, including described in this research, are arranged in English [11].

2 Materials and methods

The methodology used in this study is the theoretical analysis of scientific literature (theses, books and articles) on the topic of study, documents. International Maritime Organization and National regulations provide seafarers with the number of instructions and regulations. The research is based on selected sources under using a qualitative approach. Analytical methods of observation, accumulation and generalization of experience, collecting data of educational practice and interview, the questionnaires and comparison are used within the ascertaining experiment.

We arranged an anonymous survey at the platform of the Internet page of "Maritime English Club" with 1623 permanent participants. 139 people took active part in the survey. The most of the respondents are men of 18-27 y. o. from different countries. Further registration, scaling, ranking, describes the essence of nonparametric criteria for measuring quantitative and qualitative results of the research helped to understand them and make conclusions.

The authors arranged a survey to reveal the types cadets and seafarers' motives to ecological behavior at sea. The special questionnaire contained reasons for being a disciplinary specialist following the MARPOL convention at sea. Participants were to choose two-three reasons to follow the MARPOL convention on board a ship. Half of all given reasons reflected inside (intrinsic and internal as well) motivations (Figure 1: indexed as "In" and shown with green color at the scheme). Forming them, we mirror strengthened environmental context and awareness on the existing problems. Another half of participants showed outside and extrinsic motivations (Figure 1: indexed as "Ex" shown with red color at the scheme). At the same time, half of offered options are about "positive" (Figure 1: indexed as "+" shown with yellow color at the scheme) and another half – about "negative" (Figure 1: indexed as "-" shown with grey color at the scheme) motivations.

Forming experiments is aimed to know the correlation between the awareness of ecological problems (knowledge, perception and cognition of events), developed strategies for solving them and the inside motives to perform conventional requirements at sea. An experimental group of 58 cadets got the access to the same test twice. The first taken result did not reveal vast discrepancies with the shown on the site. Two months later they were tested, after having taken active part in the specially organized studying conference "Solving Ecological Problems at sea: Perspectives and Technology" where the most of the cadets were involved into competition doing projects on existing and evolution technologies where they had to prove their deep knowledge and awareness on the green issues. This time the results showed the difference.

3 Results

All respondents admitted doing their best to follow the mentioned regulations of the MARPOL convention for different reasons. 19% vs. 9.6% supposed a potential risk to get a heavy environmental pollution if seafarers do not follow basic regulations provided by the

convention. 16% vs. 31.7% are sure that only in case responsible behavior of everyone people will overcome ecological problems. 13.1% vs. 8.7% participants think of all required actions being reflected in the regulations and instructions of the convention and following it seafarers will avoid mistakes and never miss anything important.

10.7% vs. 1.6% respondents take into account the risk of dismissal and career fault as well as another 9.2% vs. 5.5% – of the company penalties and the ship detention in case of violations, and they are driven by a desire to stay away from it. Almost the same number, 9.5% vs. 5.6%, realize that the convention owing to the existing ecological problems lights the way to avoid greater problems for everybody. 7.5% vs. 10.3% of all respondents recognize any violation of the key convention to be not only the sign of unprofessionalism but also irresponsible and even criminal behavior. 5.8 % vs. 14.3% affirm their considering the ecological behavior to be natural for them and due to their deep realization of all importance of environmental protection; their actions cannot avoid to meet the convention requirements. 5.3% vs. 11.9% of correspondents pay their attention to the need for all rules to be followed and MARPOL is not exceptional as its regulations are compulsory. 3.9% vs. 0.8% of cadets know that these regulations are traditionally followed by all seafarers working at sea so, they will have to do the same, like others and they are motivated by perspective to be involved into maritime community and environmental behavior for them is like one of the signs that it is.

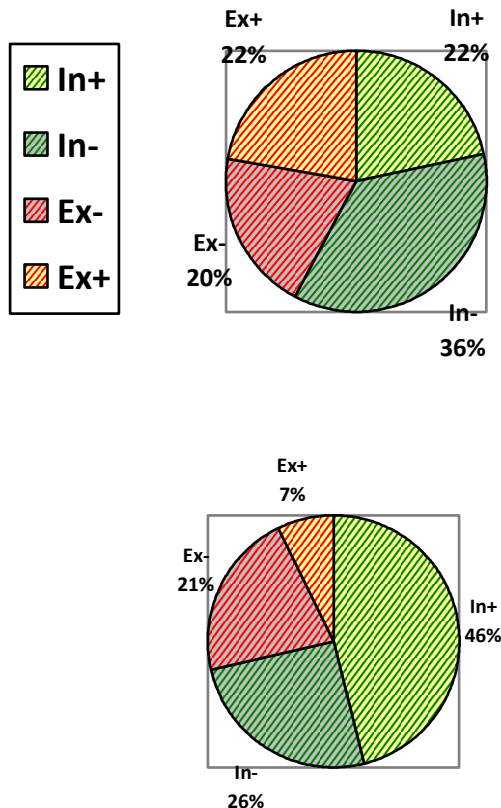


Fig. 1. Environmental motivation development before and after the educational conference.

4 Discussion

Calculation and post analyzing comparison showed that all mariners are oriented to be strictly disciplinary and will follow rules of MARPOL convention, which reflecting the most requirements of the ecological behavior at sea. Both, before (57.8 %) and after (71.5%) the forming experiment the vast majority of respondents showed exposed motivation to meet all regulations of the MARPOL convention due to their environmental awareness and inside desire to prevent pollution at sea. The obviously increased number of people showing inside, intrinsic and internal motivations proved that the deep awareness in environmental problems will add to the inside motivation. However the number of people motivated by negative incentives (mostly driven by avoiding risks) decreased from 55.9 % till 38.9% while positively driven ones (prefer to think of proper actions positive effect) increased from 44.1% till 61.1% at the same time. The reason is the subject of the studying conference, which brought cadets to learn the best perspectives of new ecological technologies and perceptions and encouraged to optimistic outlook.

5 Conclusion

Both junior and senior officers on board a vessel have to set and solve professional tasks, relying on knowledge from the field of Management and Psychology. Studying scientific data and research results, discussing the potential of their application in practice, allows them to broaden their horizons, increase opportunities, apply scientific research in the course of the professional self-organization, giving the process a creative and developing character. Using the principles and methods of scientific research contributes to the development of an innovative approach in professional practice.

Taking into account the fact the deep awareness intents thoughtful actions, vigilance and it is one of the most motivational to follow regulations; we discussed in the lessons the revealed results and potential incentives for both motivating people on board as well as self-controlling and professional self-organization. Motivating projects in different forms were developed, successfully tried and added to the educational courses.

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