



THE NEED FOR QUALITY CONTROL IN MARITIME EDUCATION AND TRAINING

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ABSTRACT

The paper presents the need to implement and maintain a quality management and control in maritime education and training having in the background the International Maritime Organization regulations.

Such a quality system should be build up around the STCW codes section B1/8 'Guidance Concerning Quality Standards' and special national regulations on this subject.

All steps followed by students becoming maritime officers beginning the admission rules to the certification exams should be in accordance with the international standards. In order to achieve such a goal it is necessary to implement and maintain a quality system including: the quality policy, appropriate procedures, quality planning etc.

The work describes the main characteristics of a quality system for maritime education and training and answers to the question 'why we need to implement and maintain' it in all processes developed by the maritime universities.

THE QUALITY AND THE TRAINING PROCESS

We can define the quality management as a trend towards excellence in very process of

management, administration and production. And we can not describe an efficient training process without to be guided by a trend towards excellence.

In fact the main goal for each cadet trained in a maritime education institution should be to achieve the highest level of knowledge and the necessary practical skills in order to be able to perform the officer duties on board ships.

To obtain this level of quality you need the joint effort of every single department of the organization, in order to develop, maintain and increase the quality of the training process.

It could be argued that quality normally implies a higher cost. However, and due to the high competitiveness generated towards the end of the XXth century, the tendency is towards increase in quality with decreasing costs.

Therefore, quality management starts with practices and examples set by managers, for the continuous improvement of processes and results in every area and operating level of the company. This has to be accompanied by an effort tending to lower costs.

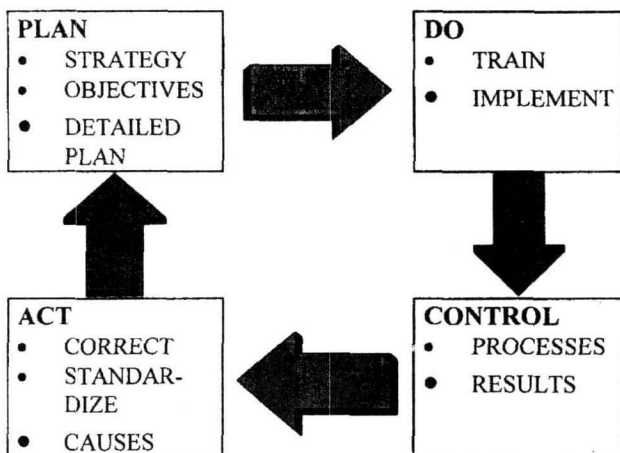
The quality strategy depends of the objective pursued by the organization. A strategy to be used must minimally contain the following elements:

- Excellence in every process of management and administration.
- Culture of continuous improvement.
- Conviction that improved quality lowers costs.
- Participation of all employees.
- Style oriented towards the customer.

The quality of the training process in the maritime field is to be guided both on national and international regulations. The STCW Code includes in Section B-I/8 *Guidance regarding quality standards*. Here we can observe as key elements:

1. an expressed policy regarding quality and the means by which such policy is to be implemented;
2. a quality system incorporating the organizational structure, responsibilities, procedures, processes and resources necessary for quality management;
3. the operational techniques and activities to ensure quality control;
4. systematic monitoring arrangements, including internal quality assurance evaluations, to ensure that all defined objectives are being achieved; and
5. arrangements for periodic external quality evaluations.

Having in view the above the implementation of the quality in the training process can be based on the following scheme:



The activities included in the general process to implement the quality in the education and training should include:

- identify needs that affect the community's support for public schools;
- enable public schools to understand opinions or attitudes of people who express needs;
- identify that result from the activities of organizations that provide input to public school process;
- establish quality requirements for the approved learning process and support services;
- determine the legitimacy of a need;
- record a need and the action the school plans to take;
- document the exact words a person uses to describe a need;
- facilitate an assignment of the need to a qualified person for appropriate action;
- monitor the actions taken on this need;
- maintain a contact with the person who expressed the need;
- identify a source of additional information;
- control variability of processes;
- ensure an appropriate response by a responsible person;
- document the effect of process in addressing needs;
- identify the appropriate people responsible for meeting the requirement;
- identify the appropriate measures so the process and measurement errors can be estimated;
- state a need in measurable terms in order to document the effect of process in addressing the needs;
- interrelate resources and activities which transform inputs into learning and support services outputs;
- establish accountability for resources decisions relating to the process;
- provide a focus and boundaries for the process;
- establish how and then the process begins and what resources are available;

- establish what can be observed and measured at the end of the process;
- establish how much variability can be tolerated;
- identify the appropriate measures so the process and measurement errors can be estimate;
- focus the process on the purpose stated;
- maintain the relationship of a process to other related processes;
- provide a pictorial representation of all the steps in a process;
- focus attention on the work to be done by people assigned to do it;
- create a ration between the elapsed time and the total time spent on-task;
- test the hypothesis that the learning performance or the support service meets the requirement;
- locate points in the process where the measurement can be used to predict other measurements;
- accumulate systematically agreed upon facts according to a documented process;
- align the reported data with the need that generated the data collection;
- provide a way to track the progress of the need through to its verification and validation;
- demonstrate that all common cause variation has been effectively eliminated;
- identify the variables in the process that are contributing common cause variance for analysis;
- test the plan on a small scale to detect errors.

It is easy to observe the importance of the internal quality assurance evaluations in this process. Such evaluations should involve a comprehensive self-study of the program, at all levels, to monitor achievements of defined objectives though the application of quality standards. These quality assurance reviews should address the planning, design, presentation and evaluation of programs as well as the teaching, learning and communication activities.

MARITIME EDUCATION AND TRAINING QUALITY SYSTEM

A maritime education and training quality system must be build up around the STCW Code provisions covering the following areas:

- admission rules for students;
- equipment with respect to the requirements in the course objectives;
- routines for assessment of students;
- evaluation and appraisal of examinations;
- qualifications of the instructors and external examiners.

The quality system will consist of a large number of quality circuits based upon a common fundamental approach to each individual element, an overall principle. The quality system should specify the systematic rules for an overview of various activities and lecturing goals with the help of timetables, a syllabus, the operational plans and examination rules.

The responsibility to establish the quality policy is on the organization management. Such a policy will define the main organizational goal having in view the shipping companies, shipping authorities and student requirements.

We can observe as a good example the steps followed in quality planning by the Vestfold College (Norway):

- completion of a quality plan, timetable, working plans, operational plans, and examination plans;
- clarification of regulations and requirements of national and international laws, and rules from the maritime and college administrations which relate to maritime education;
- clarification of educational requirements for lecturers, with respect to the STCW convention;
- the procurement of lecturing equipment that is required to meet the lecturing

- targets, with respect to the STCW convention;
- clarification of requirements for the procurement of management systems, process, equipment, resources and the experience that is necessary in order to run a quality system;
 - clarification that the construction, educational process and control, management and evaluation process, together with the necessary documentation, are in agreement with one another;
 - any necessary updating of the quality control, control and evaluation methods that are in addition to existing possibilities, such that equipment with the necessary suitability can be developed in time;
 - clarification of acceptable criteria for all possibilities and requirements, together with those which include subjective appraisal, and
 - preparation for registration.

CONCLUSION

The process of education and training of the seafarers involve an important responsibility. The actual trend to globalization of the maritime transportation should be based on qualitative and standardized training process.

The future officers should be educated and trained in processes developed under quality control in order to be able to develop safe and efficient activities on board ships. Such a background will be a premise to decrease the risks of the human factor in the maritime accidents with positive consequences in the safe of the life, ships and goods, but also for the protection of the environment from pollution. The implementation of the ISM Code and the quality standards in the maritime education and training institutions are the two important steps to achieve such a goal.

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