

## A STUDY ON THE ASSESSMENT OF SEA TRAINING AS AN INTEGRAL PART OF MARITIME EDUCATION AND TRAINING

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**Abstract:** One of the most prominent objectives of maritime education and training (MET) is to supply manpower for the shipping industry. MET provides seafarers not only with theoretical knowledge on maritime issues but also practical training on ship duties. The sea trainings of cadets are executed in defined periods according to national and international standards and includes all kind of on-the-job training methods for ships. This study covers an in-depth investigation of the assessment of the success of cadets during a sea training. The assessment has been made based on both a final written exam and additional achievement reports prepared by the lecturers and ship training staff. The results are tested and verified using empirical methods. This study not only will help to realize the problem areas in the sea training of MET but also will provide essential data for the other education models which require on the job training.

**Keywords:** Maritime Education and Training (MET), Maritime Standards, Sea Training,

### INTRODUCTION:

The International Maritime Organization's (IMO) international convention on Standards of Training, Certification and Watch-keeping for seafarers (STCW-78/95) ratified by all maritime nations, regulates the principals and standards of Maritime Education and Training (MET). The education and training programmes which meet the requirement in the STCW have been clearly defined by IMO Model Courses. IMO Model Courses 7.01, 7.02, 7.03 and 7.04 covers all details of operational and managerial level deck and marine engineering education. In line with these model courses, ISF (International Shipping Federation), representing maritime industry, has published structured Sea Training programmes. The ISF recommended programmes have been accepted as a base line and approximately all maritime administrations submitted their sea training requirements with very small modifications.

Sea Training is an integral part of MET and assessed as a part of academic programmes of maritime education institutions. Today all cadets are obliged to complete successfully at least one year sea training programme on board ships to become navigation and marine engineering officers. This training is normally conducted on board suitable merchant vessels and should be assessed by both the ship staff and lecturers of the schools. The training records including evidence book prepared by cadets and evaluation records of the ship officers are sent to schools then lecturers at the school make interviews with cadets to verify their achievements and make a/the final assessment. Some countries have training ships and they provide sea training under the supervision of the maritime lecturers deployed on board for some phases of the training in particular for initial stages.

T/S (Training Ship) Piri Reis University was deployed as a sea training ship for cadets in July 2015 as a first experiment since 40 years for the Turkish merchant fleet. 196 cadets and 17 maritime lecturers participated in this sea training as well as 57 crew members on board. The training period was 2 months covering the Black Sea and Eastern Mediterranean sea areas and conducting 12 port calls between 20 July and 20 September 2015.

192 deck cadets were divided into 8 teams, each of which consisted of 24 students led by 2 Team Leaders who were the final year cadets. 4 engineering cadets also conducted their sea training directly under the supervision of the Chief Engineer. 196 cadets were selected mostly freshmen, from 10 different maritime faculties and maritime higher vocational schools in Turkey and the Turkish Republic of Northern Cyprus (TRNC). 26 of 196 students were female cadets. A structured training programme consists of both classroom and practical training including watch duties was applied under the supervision of both the ship staff and lecturers who were mostly oceangoing ship masters.

The training programme was planned based on the first stage of the sea training programme advised by ISF. The training mostly covered a large spectrum of practical sea trainings including seamanship duties, repair and maintenance, safety and security, survival at sea, basic navigation, watch duties, proficiency in use of survival crafts, fire and damage control drills, access to enclosed spaces, rope work, ship handling etc.

The training continued at sea and in ports following a structured daily routine. The students lived on board with the basis of 7 days and 24 hours except 8 hours day-leave at each port unless there was no unsuccessful training in the previous phase. Any missing/ unsuccessful training was compensated with repetition. Being in uniform was a requirement and a special Code of Conduct for Sea was applied as well.

The final phase of the training based on the assessment of the cadets' achievement during the sea training including the stages below was also executed;

- Observation of the ship staff assigned as trainer,
- A written exam covering all aspects of the training conducted,
- Interview with each individual cadets for final assessment conducted by a commission which was consisted of 3 lecturers.

The written exam was prepared by 6 lecturers and covered the subjects only delivered and practised during the sea training. This exam has been designed as multiple choice questions. Additionally, in order to define the problems met throughout the trainings, a questionnaire has been designed and applied after the sea training (Appendix 1). The 54 students have responded the questionnaires.

The following parts of the study covers evaluation of assessment results supported with empirical methods.

## **RESEARCH METHOD**

The aim of the study is to figure out shortcomings of the sea practical training executed on board a particular training ship. Therefore, defining and assessment of the qualification achieved by cadets on board was put in the core of the problem of the study.

The research is conducted in three phases. The first phase covers the evaluation of the results of the observation of the ship staff and interviews conducted by the commission which are rather subjective and could not have been evaluated by using a measurable method. The second phase is dedicated on the evaluation of the results of the written exam and responds to questionnaires which could be applied to a measurable method. The last phase is based on an overall assessment of the results of the previous phases to define the problem areas which may lead to some proposal for reclamation for the future.

## RESEARCH

### Assessment strategy and principals

*Assessment* is the process of gathering and discussing information from multiple and diverse sources in order to develop a deep understanding of what students know, understand, and can do with their knowledge as a result of their *educational* experiences; the process culminates when *assessment* results are used to improve subsequent learning (Huba & Freed, 2000).

The assessment process has a significant importance not only to achieve evaluation the learners but also to define the problem areas in teaching and assessment. The first issue to be discussed is the quality of assessment. Some main principles should be followed during assessment process. Scottish Qualification Authority defines their assessment principals as “all assessment methods, whether internally or externally assessed must meet our principles of assessment. All SQA assessments must be categorised as: *valid, reliable, practicable, equitable* and *fair* (SQA, 2015). This principal will also be used in this study during discussion of assessments made at the end of the sea training.

### Assessment of On the Job Training

On the job training has many differences from the academic studies considering aim, objectives, content, and place, supervision of the students and in particular mode of delivery. Considering all of these differences, the assessment methods applied for on the job training should be different. Mostly, assessments of the on the job training are made using oral examinations and sometimes supported with an assignment which may be used as evidence to prove what is being achieved. The written exams are applied very rarely.

Nursing students traditionally have been evaluated with an objective written examination. This method has shown some benefits and disadvantages. In one study, the value of oral examinations was examined in evaluating nursing students. Five groups of students were evaluated with different forms of testing, some with only written tests, others with only oral examinations, some with a combination of both types of evaluations. The results of the mentioned study showed that oral examinations can effectively evaluate the student's comprehension and application of clinical information in a clinical situation, as shown in higher test results, compared with oral written examinations, and positive student comments. *Oral examination can be as effective or more effective in evaluating student understanding of medical/surgical content and its application in clinical situations* (Rushton and Eggett, 2003).

An evaluation which compares the success of the nursing students with success of the maritime cadets in written and oral exams is quite understandable. Nursing education consists of both academic and on the job training with special emphasis on practises in clinical situation. There are some similarities between maritime and nursing education concerning the importance and long duration of on the job (practical) training.

Similarly, the common understanding of the maritime lecturers is to make the assessment of the sea training by oral examination. Furthermore “seafarers’ certification examinations” in many countries is supported with an oral exam followed by a written exam and in case of any failure in the oral exam is assessed unsuccessful.

By taking into account the above concepts, the study should focus on what lessons learned could be developed to improve subsequent learning by evaluating the results of different methods used to assess particular sea training.

### Analytical Strategies

The most widely used probability distribution is the normal distribution. This is a bell-shaped curve which describes many natural phenomena, such as heights of tree, harvest from an acre of land, weight of horses and daily temperature. Figure 1 shows examples for normal distribution (Wares, 1998). The normal distribution curve is continuous, symmetrical about a mean value, has mean and median value and mode of equal, has total area under the curve equal to 1, in theory extends to plus and minus infinity on x-axis. A symmetric distribution is one which 2 halves of the histogram appears as mirror images of one another.

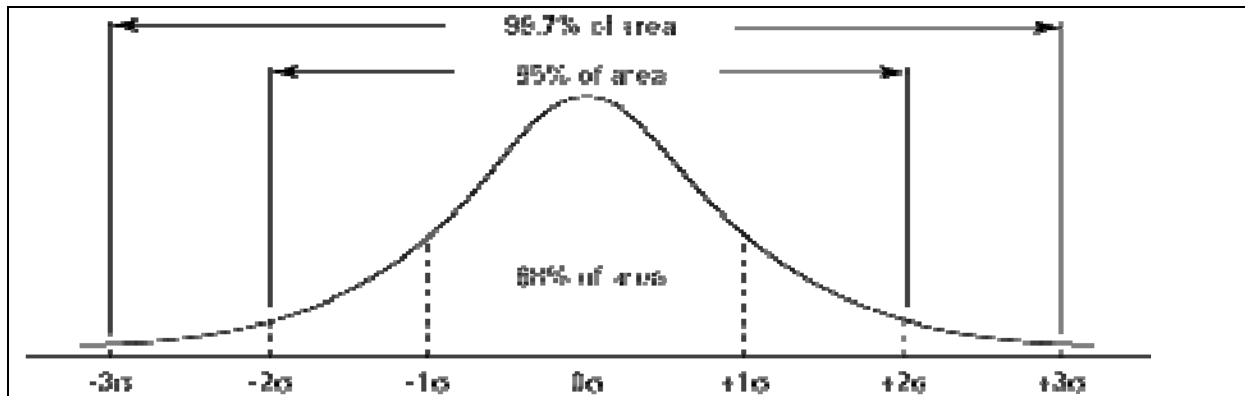


Figure 1: example for normal distribution

A skewed (non- symmetric) distribution is a distribution which there is no such mirror-imaging. A skewed distribution is one in which the tail is on the right side. The histogram in the Figure 2 is for a distribution that is skewed right (NIST/SEMATECH, 2013).

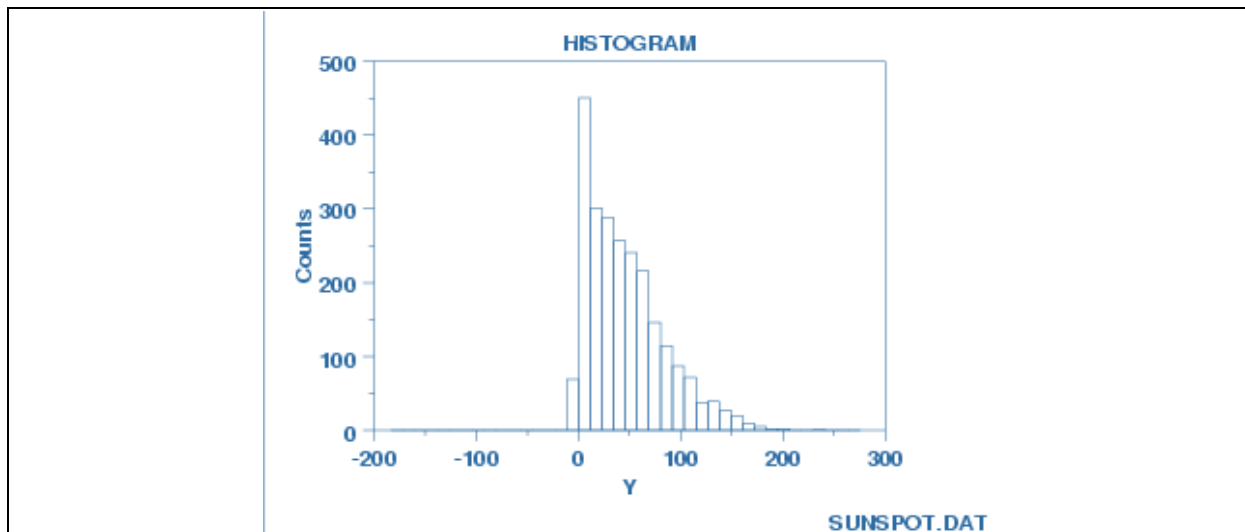


Figure 2: example for right skewed distribution

### Pareto Analysis

The principle of the Pareto Analysis states that for many events, roughly 80% of the effects/problems come from 20% of the causes (Surhone et a., 2010). It is a type of chart that contains both bars and a line graph, where individual values are represented in descending

order by bars, and the cumulative total is represented by the line. This technique helps the users to identify the top causes that need to be addressed to resolve 80% of the problems.

### Other Analytical Methods

Analytical methods can be used to evaluate reliability and validity of an assessment. A simple method had been introduced by Wuhan University of China. The procedure for the analysis of a particular case was as follows (Yuan et al, 2012). Firstly examination results of inorganic non-metal materials engineering specialty students in the first term of 2011-2012 school years of Wuhan University of Science and Technology were extracted from the scripts. Subsequently relative parameters including difficulty, discrimination and reliability were calculated. Third, the values of above parameters have been compared and discussed in order to identify possible sources of problems. To achieve the objective, the parameters will be first described according to specialized technical literature.

Their study covers difficulty, Discrimination and Reliability. In this study it is focused on difficulty only.

Difficulty: The difficulty of an item is understood as the proportion of the persons who answer a test item correctly. When this proportion is higher, the difficulty is lower. Usually this proportion is indicated by the letter  $P$ , which indicates the difficulty of the item. It is calculated by the following formula;

$$P_i = A_i / N_i$$

where:  $P_i$  = Difficulty index of item  $i$ ,  $A_i$  = Average scores to item  $i$ ,  $N_i$  = Full scores of item  $i$

For the whole script, the average difficulty index  $P$  can be calculated by the formula as below;

$$P = \frac{1}{100} \sum_{i=1}^n P_i \cdot N_i$$

Generally the **average difficulty index  $P$**  should be controlled near **0.7**.

*If  $P$  is more than 0.75, it indicates that the exam is **quite easy**. While  $P$  is less than 0.45, it indicates the exam is **rather difficult**.*

For the subject written exam  $P$  is found as 0.47 which may be accepted difficult.

### DISCUSSION

This part of the study covers an evaluation of four assessment methods which are;

- Assessment conducted by the Ship Staff,
- Assessment conducted by the lecturers deployed on board,
- Evaluation of Written Exam and
- Evaluation of the results of the questionnaires

### **Analysis of the Assessment conducted by the Ship Staff**

The ship staff assigned for training was Master, Chief Officer, 2<sup>nd</sup> and 3<sup>rd</sup> Officers. They met the students during their stay on board and their watch periods on the bridge. They could not find enough time to work closely with the students because of the huge number of the students. So, their assessment was based on some distinctive students or ineffective students who drawn their attention. They received the advice of the lecturers on the students rather than making their own decisions. The staff hesitated to make a negative decision to avoid any misleading, but provided their positive decision for some cadets who were very active and helpful for the bridge team. Their decisions have been requested to be made on three categories; “very successful”, “successful” and “under the standards”. After having their assessments, it has been seen that their responds were focused only in two categories (“very successful” and “successful”) such as follows;

Number of the very successful cadets: 24

Number of the successful cadets: 170

In accordance with the Sea Training Regulation, the assessment of the cadets should be done by the Master, Chief Officer and Designated Ship Training Officer (DSTO). As it has been stated before, they could not find enough time to work closely with the students considering huge number of the students. So their assessment was based on very limited observation and advice of the lecturers on the students rather than their own decision.

In the light of the assessment principal, this assessment cannot be assumed valid and reliable, equitable and fair. This situation dictates that some rearrangements should be made in the current evaluation system. As a result of the sub discussions, it was found that if the number of the students involving on the job training is too high, the existing employees in the work place cannot make a reliable evaluation. To solve this difficulty, some teaching staff would be deployed for on the job training and they make the evaluation instead of the employees in the workplace. By deploying teaching staff on the training ship, the evaluation/assessment part of the training records should be filled by the teaching staff assigned by the training institute. This solution was deemed as an alternative action to solve that deficiency.

It is not possible to evaluate this result in a Gauss Curve because it does not represent a normal distribution. But the percentage of the very successful cadets which is 12.5 % may be assumed as in the reasonable boundaries.

### **Analysis of the Assessment conducted by the lecturers deployed on board**

The lecturers made the assigned interviews for assessment were 3 Oceangoing Masters, 1 Chief Officer and 1 Officer of the Watch. They carried out the planned training in the classroom, in the drill stations and on the bridge. They were able to find enough time to work closely with the students although there were a huge number of the students from different institutions. They had the results of the staff assessments and written exams in their hands when they conducted interviews. They would also have an opinion on the students based on their attitudes in the class, on the bridge and in the drill stations. They had previous impressions on some students because they had already met with them during the academic year when they delivered their courses.

The maritime lecturers who are qualified on MET have made the assessment by filling the form of interview. The interviews for each student took 10 to 12 minutes due to the time constraints which was not sufficient to make a perfect assessment. The lecturers also hesitated



to make a negative decision to avoid any misleading, but provided their positive decisions for some cadets who were very active and eager during the training and drills. Their decisions have been requested to be made on three categories; “very successful”, “successful” and “under the standards” such as requested from the ship staff. Similar to the assessment of the ship staff, their responds were also based in two categories (“very successful” and “successful”) such as follows;

Number of the very successful cadets: 28

Number of the successful cadets: 164

It is not possible to evaluate this result in a Gauss Curve because it does not represent normal distribution. In the light of the assessment principal, even if this assessment may be assumed valid and reliable, equitable and fair, some kind of evaluation methods are needed to generate a tangible result by making a comparison.

In many studies, different types of scales are used to measure the achievement of the students. The most commonly used scale is based on “very successful, successful and referral”. The Pearson which is the one of the most world-spread education accreditation organization uses a system based on “distinction, merit, passed and referral”. Comparing with very “very successful” “distinction and merit” are rather distinctive and clearer to make discrimination of the success of the students.

There are also many methods (scales) used to evaluate the human success in the organizations. Celik and Telman (2013) defined 8 scale groups of scale to measure the efficiency of the person in the organization/industry such as; Personal Specifications, Professional Tendencies, Dimensions of the Personal Problems. Organization and Culture, Interaction between Individual and Organization, Individual and Leader etc. By taking into account the examples mentioned above, we understand that new scales are needed be extracted to measure the student’s achievement.

All of a piece, the percentage of the very successful cadets which is 14.58% may be assumed as in the reasonable boundaries. This result is very close to the results of the assessment made by the ship staff. But we should also consider the impact of inducement of the lecturers on the ship staff.

### **Analysis of the Evaluation of the Written Exam**

The questions have been prepared by 6 maritime lecturers who participated in the sea training. The questions covered the subjects delivered in the classroom and practised in the work stations. All questions were multiple choices having 4 options.

The results are not encouraging due to low grades. The averages for the students from different cohorts are as follows;

Freshman (1<sup>st</sup> year cadets): 45.7

Sophomore (2<sup>nd</sup> year cadets): 43.5

Junior (3<sup>rd</sup> year cadets): 46

General average: 45.07

Distribution of the grades in the written exam is shown in Figure-3. The values in the right end covers 13 “0” values. When this part is ignored the data distribution would be more meaningful. Making this arrangement “Statistical parameters of data set” is as follows;

Variance: 32.87

Standard Deviation: 5.73

Mean Value: 6.22

Median: 4

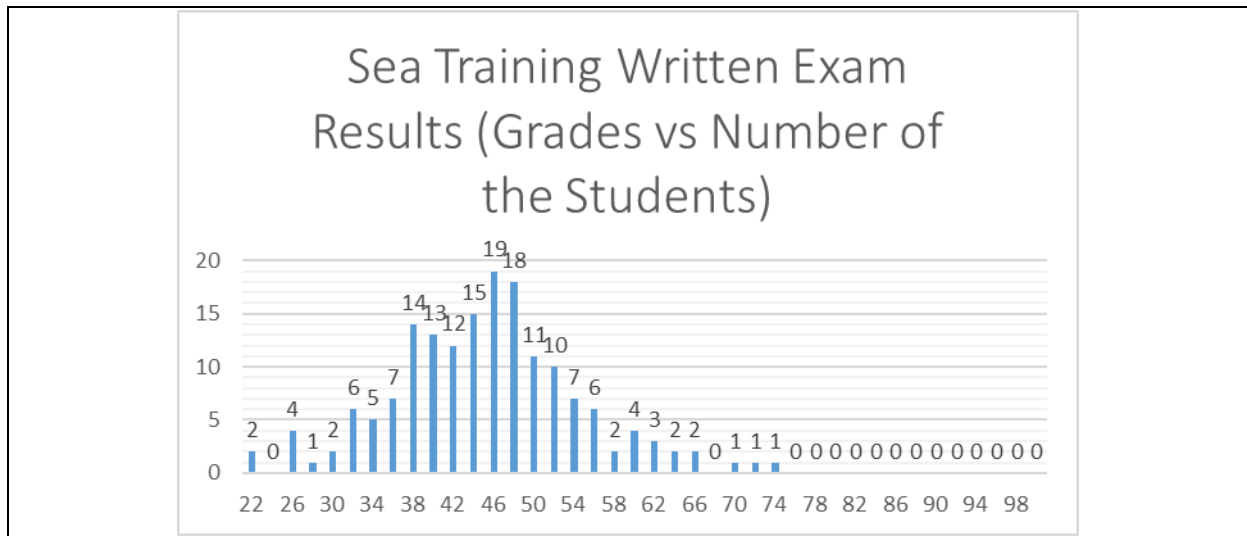


Figure 3: the graphic of data distribution

Taking these values into account, the graphic of data distribution is getting closer to a right skewed distribution with some small deviations which are negligible.

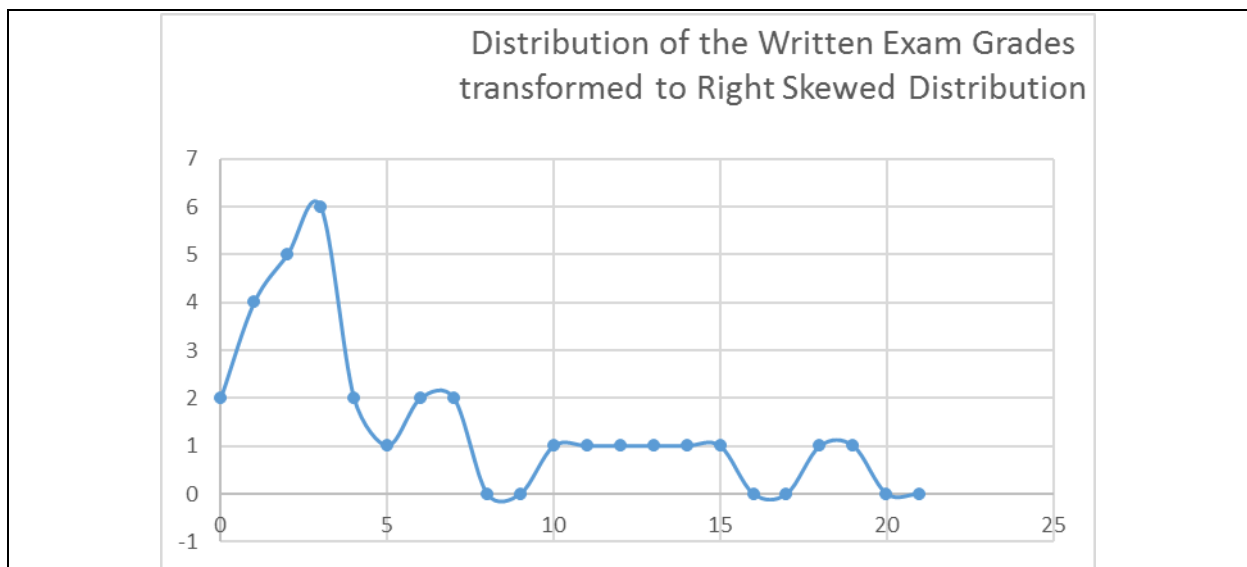


Figure 4: histogram of written exam grades transformed to right skewed distribution



Since the results are not encouraging due to low grades, to investigate the level of cadets deeply, a questionnaire has also been applied for the some parts of the students who took this exam.

### **Analysis of the evaluation of Questionnaires**

Because the results of the written exam were not encouraging, a dissection has been started. In the first step the content, quality and the hardness of the questions are tested. The content was exactly in line with the programme applied. There were no questions unrelated to the subject delivered or exercised. As far as concerning hardness of the questions, the applied questions were compared with the questions asked in the academic year and it is found that applied questions were simpler from the others. The quality of the questions was tested under the rules to prepare multiple choice questions and everything was in line with the principles and techniques.

To this end, it was decided to take the view of the students by a survey. A questionnaire has been prepared to find other reasons which affect the results. The questionnaire consisted of the following questions:

*The reason why I was not successful in the written exam at the end of the sea training;*

- *I did not expect that I would be taking an exam at the end,*
- *I did not prepare for this exam,*
- *I did not take the training session seriously,*
- *The life at sea reduced my effectiveness,*
- *The number of the participants in some training sessions was so high that I was distracted as a result,*
- *The questions were extremely/unusually hard,*
- *I was asked unrelated questions,*
- *There were many confusing questions,*
- *There was no sufficient time to respond to the questions.*

The participants have also been requested to add any other reasons if required. They were asked to mark maximum 3 reasons.

The questionnaires have been distributed to 61 students. 54 students have responded the questionnaire correctly. Only two reasons are added in the list by 2 students and could not be taken into account because the number of the students were not enough for making a sound comparison. The result of the questionnaire analysis is shown in Table 1.

Table 1: The results of the questionnaire

-	I was not expecting I will take an exam at the end : 40
-	I did not prepare for this exam: 34
-	I did not take the training session seriously:30
-	The number of the participants in some training session was so high that I was distracted as a result :14
-	The questions were extremely/unusually hard :13
-	I was asked unrelated questions: 10
-	There were many confusing questions: 8
-	The life at sea reduced my effectiveness: 7
-	There were no sufficient time to respond to the questions: 6

The Pareto Analysis is applied to the results of the questionnaires and introduced in the Table 1. The Pareto charts for the questionnaire is introduced in the Figure 5 with all the details.

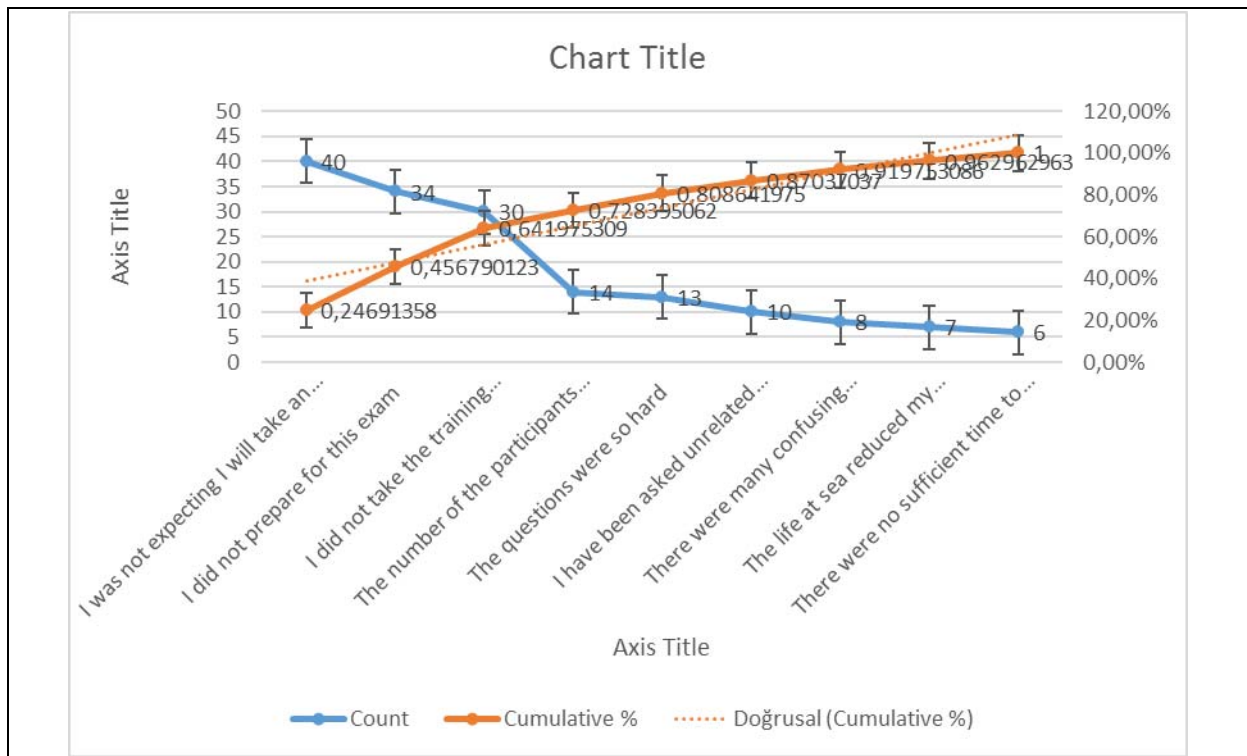


Figure 5: the Pareto charts for the questionnaire

There are three break points (1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup><sup>th</sup> points from the left) in the cumulative percentage line of the diagrams. These points occur when the slope of the line begins to flatten out. The factors under the steepest part of the curve are the most important ones. Hence, “I was not expecting I will take an exam at the end” has the most significance level compared to other causes. “I did not prepare for this exam” and “I did not take the training session seriously” are the two other significant reasons. “The number of the participants in the

same training session was so high that I was distracted as a result” and “The questions were extremely/unusually hard” have approximately the same importance level and these are rather important when compared to “I was asked unrelated question” and “There were many confusing questions”. “The life at sea reduced my effectiveness” and “There were no sufficient time to respond the questions” which have the lesser significance level compared to the causes are indicated at the left side. As a result of the analysis, three reasons are found rather important by the participant; “I was not expecting I will take an exam at the end”; “I have not prepared for this exam” and “I did not take the training session seriously”.

## CONCLUSION

At the end of this study the following results are found and subsequent proposals related to these results are introduced.

1. Nowadays on the job training become rather important to improve the practical knowledge and the skills of the students in particular for the jobs directly related to use of the equipment to achieve their mission such as engineering. On the job training will also help the students to get familiarized to their future work places. Understanding this situation the education and training institutes should pay more attention to on-the-job training. That means they should prepare better on the job training guidance and produce procedures to conduct an effective on the job training.

2. The education and training have no value if it is not evaluated perfectly. Every education institute has an evaluation system to measure their academic achievement. Assuming that on the job training is an integral part of the academic education, they should also improve their on the job training evaluation as well.

3. If the number of the students assigned for on the job training is out of the control capability of the work place employees tasked to control and evaluate the students, sufficient number of the teaching staff should be assigned as trainers to plan, conduct and control the training as well as making evaluation and assessment of the students.

4. The students should be informed in advance that they will take both oral and written exams at the end of the on the job training as well as they are obliged to keep all required records to prove their achievements.

5. The oral examinations are rather effective to understand the students’ achievement. But these oral examinations should be based on well-structured questions directly related to on the job training rather than the subjects already taught in the schools.

6. The following reasons introduced in the Pareto Analysis are found important to evaluate effectiveness of the on the job training,

a. Many students stated that “I have not prepared for this exam”. This shows that the students are not spending extra time to review what they have learned during the practice phase; even they do not prepare themselves for the exam at the end of the training. So, additional measures such a structured exam which proves student achievement is necessary to conduct an effective training.

b. Again many students said that “I did not take the training session seriously”. This claim unveils that many students accepts that on the job training is not an integral part of the academic training and they do not pay enough attention to training sessions.

c. Some students claimed that “the number of the participants in the same training session was so crowded and this distracted my attention”. The number of the students who will participate a practical training should be defined clearly taking into account the content of the practice conducted, dimensions of the workplace and students’ direct involvement with the practice.

7. There are many methods for the assessment of students. The commonly used system is based on “very successful, successful and referral”. The Pearson which is the one of the most world-spread education accreditation organization use a system based on “distinction, merit, passed and referral”. Comparing with “very successful”, “distinction and merit” are rather distinctive and clearer to make discrimination of the success of the students. Taking into account related studies on the measurement scales, we should investigate new scales to measure the student’s achievement to discriminate success level as a further study.

## REFERENCES

- Celik D.A., Telman T.. (2013). The scales used in the Industry and Organizational Culture, Nobel Yayınları, Ankara ISBN: 978-605-133-613-8.
- Huba, M.E., Freed, J.E. (2000). Learner-centered assessment on college campuses: Shifting the focus from teaching to learning. Needham Heights, MA: Allyn & Bacon. p. 108.
- IMO, STCW /2010). Standards’ Training, Certification and Watchkeeping , IMO, London, UK.
- IMO Model Course 7.01, (2012). First Officer and Master, IMO, London.
- IMO Model Course 7.02, (2012). Chief and Second Engineer, IMO, London.
- IMO Model Course 7.03, (2012). Officer of the Watch, IMO, London.
- IMO Model Course 7.0 4, (2012). Engineering Officer of the Watch, IMO, London.
- ISF, (2012). On Board Training Record Book for Deck Cadets, MARISEC Publication, London.
- ISF, (2012). On Board Training Record Book for Deck Cadets, MARISEC Publication, London.
- ISF, (2012). On Board Training Record Book for Engineering Cadets, MARISEC Publication, London.
- Rushton P, Eggett D., (2003). Comparison of written and oral examinations in a baccalaureate medical-surgical nursing course, Journal of Professional Nursing , 2003 May-Jun;19(3):142-8.
- SQA (Scottish Qualifications Authority), (2015). Guide to Assessment Publication, Publication Code: AA4147 (July 2015), Glasgow, UK.
- Surhone, L., Timpledon, M., Marseken, S. (2010): Pareto analysis: Statistics, decision making, Pareto principle, fault tree analysis, failure mode and effects analysis, Pareto distribution, Wikipedia Betascript Publishing.
- Wares D., (1998) Essential Quantitative Methods- A Guide for Business, Addison Wesley Logman Inc, Newyork , USA ISBN 0-201-33137-3 p.255-256.
- Yuan, W., Deng C., Zhu, H., Li J., (2012). The Statistical Analysis and Evaluation of Examination Results of Materials Research Methods Course, Scientific Research, Creative Education 2012. Vol.3, Supplement, 162-164 Published Online December 2012 in SciRes ( <http://www.SciRP.org/journal/ce>) (Retrieved on 05 September 2015).

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