

Assessment of Factors Contributing to the Risks of Accident

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ABSTRACT: The study is research and development by utilizing the ex post facto approach. The research area is at the KM. Gunung Dempo. The research information was collected using a questionnaire method and then analyzed using evaluative analysis techniques via descriptive-quantitative analysis. This study is evaluative research with N-Gain. The data were collected through questionnaires and interviews. Valid data in the validity test results can be used for research. Two items of data were found to be invalid during the validity test. Result of N-Gain was 0.766 which was in high category, meaning that implementation of system model changed into suitable and powerful to enhance understanding. Result of t-test showed that t for statistical test was 93.398 with significance level = 0.000 ($p < 0.05$), meaning that the model was effective. Drill Program implemented is in a good category. Correlation coefficient of pre-test and post-test was 0.878. Result of N-Gain was 0.766 which was in high category, meaning that implementation of Training application system version turned into top and powerful to enhance learning. Result of t-test showed that t for statistical test was 93.398 with significance level = 0.000 ($p < 0.05$), meaning that the model was effective.

1 INTRODUCTION

Transportation by ship has a fantastic impact at the personnel who work because the deliver's crew [16]. The Baltic and worldwide Maritime Council (Bimco) cited that during 2020 the arena wished 1,593,198 seafarers. however, there have been only 1,555,281 seafarers, so it ought to be 37,917 more. it's far an opportunity for people who wish to work aboard ships, as the seas offer more job vacancies than on land.

One of the base educations programs that prospective seafarers must comply with is Drill Program [3]. the program aims to provide education members with understanding and skills about the basics of protection on board [15]. They must also be

capable of exercise the knowledge to save you and overcome emergencies while cruising [7].

Drill Program is the primary objective of the training is to strengthen the player's skills so that they are capable to perform a rescue in an emergency condition [19]. They must be capable of prevent fires and extinguish them. except, they are expected to understand diverse emergencies, occupational health and safety, mild medical care on board, and self-rescue [14]. participants are also required to engage in preventing marine pollution and develop social verbal exchange aboard the ship.

On the preliminary area observations and interviews with training managers, the researchers found many deficiencies within the education and training services of Drill program at the KM. Gunung Dempo. one of these shortcomings is the time table of

coaching and studying activities in the classroom and field exercise, which are organized in an unstructured and systematic way. One schedule often collides with another because of inconsistent lesson times. The problem is indicated due to the restricted quantity of academics and insufficient facilities.

Different findings indicate that the making plans, implementation, and evaluation training aren't organized based totally on control principles, so the implementation is much less effective. From the results of the interview with the pinnacle of the Seafarers' education and training Unit, the learning focuses on conveying knowledge verbally, it has not but reached the level of giving training participants the opportunity to expand their personal insights and judgment once they face critical conditions. that means the lecturer or instructor does not reflect on their personal learning techniques.

The evaluation model gives a more complicated software because it covers both formative and summative reviews. The results of the context, input, method, and product evaluation will be useful in making decisions (formative) and create accountable information (summative). hence, it will upload more various strategic alternatives applied by institutions in conducting instructional programs. Two CIPP assessment results sign up a traditional remember of 91,000% and a computational count of 91.600%. based at the analysis, the computer-Assisted CIPP evaluation version is able to calculate more quickly and accurately than traditional, even though the difference is not significant. therefore, further empirical studies is needed to talk about the controversy [6].

Correct protection training is beneficial to lessen the danger of a work injury that may arise anytime and everywhere. hence, every deliver's group is needed to join protection education [17, 18]. Within the findings of the effectiveness of Training Program on protection, protection training is efficacious inside the crusing global. but, it needs to be supported by suitable learning methods and fashions so that they can without problems exercise it while working. With the assist of technology, studying becomes simpler and increases the education participant literacy to recognize the material [5].

In the assessment of modification of Training program as a reaction to a disaster, it indicates that this training has proven to play an crucial role in public awareness, and it is suggested to improve it. groups experienced Training Program has proven to be more alert and responsive in dealing with screw ups [13].

Context input process Product is an information service evaluation model. it is the solution to solve issues in the evaluation of services. The evaluation version was designed because of the teacher's lack of comprehension in assessing the teaching process. that is why the success rate of information services in schools cannot be analyzed clearly. furthermore, the assessment method's ineffectiveness also results in weak faculty accountability and inadequate improvement or development.

1.1 *Management of Training*

Management is a process of forming cooperation in a collection, which later creates a common goal. Meanwhile, [17] asserts that control is the communication of diverse resources developed from the making plans, organizing, and controlling strategies to achieve certain intentions, [12].

Based on these ideas, management is defined as a process for solving problems with powerful methods to achieve organizational goals and objectives by using existing assets successfully. management includes many aspects together with control, coordination, motivation, design processes, development, and the influence of organizational goals and assets in achieving goals [11].

Argue that control is the system of directing agencies to achieve organizational goals collectively. Administrative specialists such as Sergiovanni, Coombs, and Thurson also have a comparable sentiment by emphasizing that management is the procedure of working with and through others to perform organizational dreams successfully [2].

Primarily based at the data above, the researchers formulate that control goals usually discuss a few aspects, including a) cooperation, b) conducted by or extra people, and c) achieving common goals. consequently, management is a process involving many people effectively and efficiently to attain organizational functions. management in an organization features as an attempt to carry out certain sports, so its main goals are achieved productively and efficiently.

1.2 *Drill Program*

This abilities education and training aim to make sure that individuals have basic competency and safety skills while crusing. participants must demonstrate a series of rescue in an emergency as one indicator of those skills. they have got the competency to prevent fires as well as to extinguish them. The individuals also are expected to understand numerous types of emergencies, occupational health, and safety [10].

Aside from the signs above, there are different factors such as medical care skills, self-rescue at some point of an emergency, stopping marine pollution, and maintaining social verbal exchange on board. This Drill Program additionally emphasizes the contributors to comprehend the basic knowledge of safety and exercise [8] it to prevent and overcome issues at the same time as crusing. accordingly, education participants are not best talented in theory, so are the practitioners too.

2 METHODOLOGY OF COLLECTING INFORMATION

This study is evaluative research with pre test and post test and N-Gain [4]. The data were collected through questionnaires and interviews. Before the questionnaire was submitted to the respondent, the instrument was through the validity and reliability

stages. Valid data in the validity test results can be used for research. Two items of data were found to be invalid during the validity test.

To analyze the data, the researchers used descriptive statistical methods. The method is then combined with the pre test and post test and N-Gain, so it can evaluate the implementation of the training program at KM. Gunung Dempo. The next step is selecting the education and training model through the Planning, Implementation, and Control approach to determine the appropriate model and may be useful as a training development strategy.

This study intends to obtain a concrete picture of the Training program implementation. The development research also reports in detail the behavior of training participants, training activities, and exploration to determine the proper method and development. After the event is thoroughly understood, the next step is exploring the research subject to check the overall situation in everyday life.

3 RESULTS AND DISCUSSION

Previous to this selection the subsequent steps were conducted: accumulating statistics on college students arithmetic rating in KM. Gunung Dempo, accomplishing populace normality tests of students arithmetic score appearing variance-homogeneity check, four). Engaging-in random choice after the population considered regular and homogeneous, the level in this have a look at include: identifying troubles and dreams, making mastering, growing test devices followed by way of validation-of specialists and empirical (subject check trial), four) undertaking the pretest, presenting getting to know remedy the usage of manipulative media, conducting the put up-test, analyzing the check effects, drawing conclusions from the result of the look at, writing the research record.

The facts were accumulated by using giving written exams thru pre-test and post-test to discover students know-how of principles related to addition and subtraction of integers. Students' know-how of mathematical ideas is measured from their information earlier than and after the remedy through pre-test and post-check for the fabric addition and subtraction of integers [9].

The check instrument consists of 23 questions. Before this device become used in this studies, it turned intotested through experts. The very last validity acquired 19 legitimate questions with a moderate development. After validity from the professional, the device become examined to find out the empirical validity. The result of empirical validity turned into then processed to peer what number of questions is legitimate. Based at the calculation of this validity, all questions are considered valid. After understanding the validity, the reliability, issue stage, and discriminating electricity were additionally decided. The validity was tested through by the usage of Pearson Product moment correlation components at the same time as the reliability became tested by using the use of Aplha formula.

After acquiring the valid and reliable check tool, the test was given to attain the pre-check and put up-take a look at results. Facts obtained from the results of the pre-take a look at and submit-check were then analyzed to look the development earlier than and after the treatment. Quantitative information analysis changed into used to look the significance of the increase before and after the treatment with the aid of the usage of normalized advantage system advanced [1].

This studies is an experimental research with pre-experimental technique. The studies design used in this have a look at is a pre test-post test layout. Outcomes of descriptive evaluation related to outcomes of pre-test and post-test are provided inside the in the frm of a graph or bar chart in Figure 1 below.

Result Pre Test and Post Test

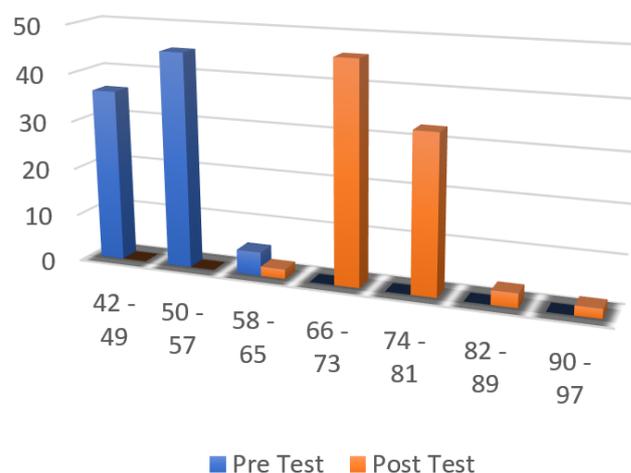


Figure 1. Description of Before and After Implementation.

Figure 1 indicates that before implementation of management model in Training Program, the highest score obtained was at intervals 50-57 as much as 52% which was in pretty precise category. After implementation of management model, the highest score obtained was at intervals 66-73 as much as 54% which was in a good category.

3.1 N-Gain Test on Results of Pre-Test and Post-Test

Calculation of gain index was carried out to see how much increase in implementation of management. Gain test is used to determine degree of effectiveness of a treatment on anticipated results, which in this study was management model in Training Program. Gain index is calculated by the following formula:

$$\text{Gain index} = \frac{(\text{Post test score} - \text{Pre test score})}{(\text{Max score} - \text{Pre test score})}$$

Importantly, criteria for N-Gain results are presented in Table 1 below.

Table 1. Gain Index Criteria

No	Index	Explanation
1	$g \leq 0,3$	Low
2	$0,3 < g < 0,7$	Moderate
3	$g \geq 0,7$	High

Source: Meltzer.

Information acquired from the results of the pretest and posttest were then analyzed to see the improvement before and after the remedy with manipulative media for the addition and subtraction of integer substances. Quantitative information evaluation turned into used to peer the significance of the boom earlier than and after the remedy via the usage of normalized gain method developed.

Moreover, criteria used to interpret Gain score: Gain ≥ 0.7 means high; $0.3 \leq 0.7$ means moderate; and Gain ≤ 0.3 means low 18. Result of pre-test showed that mean value of management model in Training Program was 52.5098, while result of post-test of implementation of management model in Training program obtained a value of 74.7342, indicating that there was an increase after implementation of management model in Basic Safety Training. Level of effectiveness of the model applied in this study can be calculated using Gain Index above, which is as follows

$$\text{Gain Index} = \frac{(73.7342 - 52.5098)}{(93 - 64)}$$

$$\text{Gain Index} = \frac{23.22}{29} = 0.766$$

Based on Criteria table, effectiveness of Training model in implemented in KM. Gunung Dempo was in the range of Gain value ≥ 0.7 . It means that Gain index value of 0.766 was in high category (high-G). Accordingly, results of above calculation demonstrate that management model in training program developed was effective to improve basic safety training skills at KM. Gunung Dempo with a high level of effectiveness. Effectiveness of model checking out then used t-test and average increase of pre-test and post-test.

Result of N-Gain was 0.766 which was in high category, meaning that implementation of application system model was good and effective to improve training. Result of t-test showed that t for statistical test was 95.508 with significance level = 0.000 ($p < 0.05$), meaning that the model was effective.

4 CONCLUSION

The research and discussion results conclude that the training program implemented is in a good category. Correlation coefficient of pre-test and post-test was 0.878, meaning that there was a correlation with significance level of $0.00 < 0.05$. Result of N-Gain was 0.766 which was in high category, meaning that implementation of training system model was good and effective to improve learning. Result of t-test showed that t for statistical test was 93.398 with significance level = 0.000 ($p < 0.05$), meaning that the training was effective. Overall, the implementation of BST at the KM. Gunung Dempo is good.

Recommendation: Based on the research results, the researchers suggest, Use the application for registration, payment, and sharing of training schedules online, Optimize the use of Learning Media and information technology for training implementation in the classroom.

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