



## Training and Retraining Of Passenger Boats, A Tool to Safety of Lives and Properties

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### Abstract

The Nigerian marine transportation is challenged by infrastructural and human capacity factors, a problem that has led to boating mishaps and increased rate of fatality. The marine industry is reported to be a high risk industry, despite the use of modern navigation equipment and other important technologies. This paper specifically investigated the training and retraining of passenger boats in ensuring the safety of lives and properties. In carrying out this study, three research questions were formulated. Descriptive survey was used in this study on a population comprising of marine vessel operators and crew members selected from marine companies in Lagos state, Nigeria; BG marine limited, Ocean marine solutions, GLS marine limited and seacoast energy and logistics limited of located in various locations in Lagos state. Data was derived by means of questionnaires. The sample size of 100 was determined with the aid of simple random sampling technique but only 83 questionnaires were considered valid for use which was analyzed descriptively using means. The study was guided by three main objectives and three research questions. The study listed out importance of training and retraining which include: updating existing knowledge on marine operations and safety tips; enabling the acquisition of experience in the marine industry for safety of lives; ensuring effective navigation on the sea; enabling understanding of emergency announcements that may be broadcast on the ship during an emergency or drill; and improving skills, efficiency and overall productivity. The result also indicated that training and retraining enables passenger boat seafarers to identify emergency situations that may threaten lives and properties and enhance their state of readiness to respond to emergency situation which enables them have an understanding of immediate action to be taken in cases of emergency or casualty. Based on the findings, conclusions were made and recommendations suggested.

### 1 Introduction

Central to the productivity of every venture is the human or labour aspect; which are the reason organizations would go the extra mile to put in place programmes that ensure effectiveness and promote productivity. It is from humans that innovations, ideas and inventions emanate that would become of benefit to employers and employees alike, thus achieving this effort in humans is subject to the amount of training given. With this view, training is recognized as a significant and contributory factor to employee performance and productivity (Laff, 2006). A key concern in transportation service is the attainment of safety, and this is no different in the marine industry. According to injury and fatality statistics, the marine industry is reported to be a high risk industry, despite the use of modern navigation equipment and other important technologies (Tawfeek, 2018). Based on this, in attaining a maximum standard of safety aboard ships, ensuring the right qualification of employees is considered significant. This is because the safety of a ship has a close relationship with human error; and in addressing this safety concerns the human element has to be properly trained.

Andrei et al. (2018) highlighted that a major means by which attitudes to safety can be improved is by conducting training programmes. The role of training in any organization cannot be over emphasized as it shapes behaviours that have either direct or indirect influence on safety. Training programmes are considered significant, and a requirement to minimizing the occurrence of major accidents on board; given the identification of insufficient training as the main element responsible for occupational-related mishaps. In addressing safety issues, the Standards of Training, Certification and Watchkeeping for Seafarers (STCW 95) which took effect on the 1<sup>st</sup> of February, 1997 was formulated to enforce measures aimed at minimizing poor human decisions through adequate training. The knowledge, experience and skills of seafarers has a direct relationship to

safety at sea, which calls for constant training and retraining to eliminate issues of miscommunication caused by factors such as language barriers (Wang & Zhang, 2000). It is important that seafarers be adequately trained to handle situations that might threaten lives and properties. It is expected that maritime education and training contributes meaningfully to maritime safety and will improve search and rescue operations as well as preparedness in accidents/incident cases.

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## 2 Statement of the problem

Safety at sea remains the main problem in the shipping industry. Major maritime accidents have resulted in heavy losses of human lives and severe environmental and economic damage (Bartuseviciene, 2020). A crew's preparedness for emergency situations is key to minimizing personal injury and damage to properties. Passenger boats also called passenger ships are a major contributor to the mobility of people. The Nigerian marine transportation is challenged by infrastructural and human capacity factors, a problem that has led to boating mishaps and increased rate of fatality. The agency saddled with managing the waterways has reported that mismanagement and underfunding has been a limiting factor, as well as obsolete equipment and staff with obsolete skills. This inefficiency, the precarious nature of water transportation in Nigeria, the ignorance of boat riders and passengers regarding safety measures are contributory factors to marine accidents (Ukoji, 2015). It is on this premise that this study is aimed at evaluating the training and retraining of passenger boats as a tool to safety of lives and properties.

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## 3 Research Objectives

1. To examine the importance of training and retraining of passenger boats in the safety of lives and properties.
2. To identify the types of training passenger boats seafarers undergo to ensure safety of lives and properties.
3. To determine how training passenger boats seafarers prevents accidents involving lives.

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## 4 Research questions

1. What is the importance of training and retraining of passenger boats in the safety of lives and properties?
2. What are the trainings given to passenger boats seafarers to ensure safety of lives and properties?
3. How do training passenger boat seafarers prevent accidents involving lives?

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## 5 LITERATURE REVIEW

### Passenger boats

Passenger boats also called passenger ships refers to a ship which conveys more than 12 passengers and is characterized by a big upper-structure because space for passengers must be located above the loadline. Passenger ships, which became popular in the 19th century, became larger and faster in the 20th century. Passenger ships range in size from small river ferries to very large cruise ships and includes ferries, which move passengers and vehicles on short trips; ocean liners, which carry passengers from one place to another; and cruise ships, which carry passengers on voyages undertaken for pleasure, visiting several places and with leisure activities on board, often returning them to the port of embarkation (Tawfeek, 2018).

The shipping industry depends on competent, well-trained seafarers to ensure safety of life at sea, maritime security, efficiency of navigation and protection and preservation of the marine environment. Officers serving on any type of ship who are designated with safety and pollution prevention responsibilities in the operation of the ship need basic safety training. Such training must cover personal survival techniques, basic fire prevention and firefighting, elementary first aid, and personal and social responsibilities. This requirement applies to practically all officers serving on merchant ships.

### Training

Training is an important part in the history of man and plays an important part in furthering human learning and development. Good quality training is a prerequisite for ensuring a vessel maintains a high standard of operation (Dragomir&Utoreanu, 2016). Training in all its forms adds to the value and safety culture on a vessel. A well-trained seafarer is the most valuable asset an owner has on board. Companies must

meet the requirements for which they are directly responsible. Having well-trained seafarers is essential to any maritime company who wishes to demonstrate that responsibility, while at the same time be seen by the community as having quality and competitive operation (Barsan et al., 2011).

#### **Importance of training and retraining to safety of lives and property**

Training and retraining is important to get crew to familiarize with different procedures to be followed in emergency cases. It ensures that the personnel on passenger ships are acquainted with the methods and equipment used in case of any crisis.

**Fire drills:** fire on a ship is very different from fire on land as a ship is surrounded by water and the only way out is by using a lifeboat or raft (Shangchun, 2000). Everyone is at risk when there is a fire and passengers are even more at risk as they are not familiar with a ship's emergency exits or where lifesaving equipment are stored. With the right and adequate training, seafarers can eradicate fire hazards and respond swiftly and effectively if a fire breaks out but without right training, a small incidence can quickly grow to become a major incident with devastating outcomes. Fire drills and trainings are of utmost importance because they help crewmen understand fire prevention and prepare them to deal with, as well as know the tasks to perform in any emergency that may arise from a fire on board. They are trained to use appliance for fighting fires and to understand how to operate a fire fighting system with precautions, to locate escape routes and be accustomed to the fire and safety regulations of the company (Raunek, 2020). Fire safety training can teach workers how to recognize fire hazards, conduct a fire safety risk assessment, prevent a workplace fire, and respond if a fire occurs.

**Elementary first aid:** First aid technique must be known by every seafarer to guarantee health and medicine on board a ship. Even though seafarers are not expected to be physicians, a situation which may be life threatening may arise. The knowledge of first aid technique is important to seafarers as a staff that is well equipped and knowledgeable in medical matters will effectively treat most injuries when on board. This will also reduce medical dockings, expensive and inconvenient helicopter evacuations, diversions and port referrals (Hristova, 2019).

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## **6 Empirical review**

A study carried out by Amir et al., (2020) to determine the effects of basic training on seafarers' shipboard safety knowledge, attitude and behaviour revealed that basic training plays a role in improving the knowledge, attitude and behaviour of seafarers. Onwuegbuchunam (2013) examined the factors that are responsible for marine vessel accidents in Nigeria's waterways. Using structured questionnaires distributed randomly to vessel operators in marine terminals, data was collated and analyzed using multinomial logit regression model. The study found that the major factors significantly contributing to marine vessel accidents were human and environmental factors. Psaraftis, Cardis, Desgpris and Ventikos (1998) analysed the extent of the human element as a contributory factor in marine accidents. The findings of the study showed that there are several factors related to human errors which constitute causes of marine accidents, and these includes erroneous judgement, communication, and organization procedures.

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## **7 Theoretical framework: Basic training and KAB theory**

Basic Training (BT) is one of the compulsory courses that are required by seafarers working on board any type of ship to ensure their readiness to serve and undergoing it is essential to make certain their capability to carry out their assigned duties safely (ITF, 2010). Basic training includes training on first aid procedure, fire prevention and firefighting as well as personal safety and responsibility and exposes trainees to the proper techniques of instilling board survival crafts, wearing life jackets and educating them on the proper procedure to abandon ship (IMO, 2017). In BT, the trainee's attitude and behaviour should improve based on the Knowledge and Behaviour Theory (KAB) (Fabrigar et al., 2006). Inferring from the model on knowledge and behaviour relationship, there is a link between knowledge and an individual's behaviour which can be reinforced in a situation where informing people of certain dangers and consequences may enhance the prevention and reduction of related issues. The KAB model further emphasizes in relation to seafarers behaviours that even after completing a basic training requirement, there should be expectation of attitude changes related to behavior, implying that with knowledge, attitude and behavior can be improved upon leading to positive transformation

## 8 Methodology

Descriptive survey was used in this study on a population comprising of marine vessel operators and crew members of located in various locations in Lagos state. These respondents were selected from four purposively selected marine companies in Lagos state, Nigeria; BG marine limited, Ocean marine solutions, GLS marine limited and seacoast energy and logistics limited. Using purposive sampling technique, the sample for the study was selected; and this selection was subject to availability of the respondents, willingness and knowledge of the subject under discussion. Data was derived by means of questionnaires structured based on the research objectives formulated for the purpose of the study. The four point likert scale of Strongly Disagree (SD=1), Disagree (D=2), Agree (A=3), Strongly Agree (SA=4) was adopted in the construction of the questionnaire. The sample size of 100 was determined with the aid of simple random sampling technique to whom the questionnaires were distributed to, during working hours. However, only 83 questionnaires were considered valid for use in the study, and upon which the analysis was descriptively analyzed using means and simple percentages.

## 9 Data presentation and analysis

For this study, 100 questionnaires were distributed; but only 83 were retrieved. The analysis is based on the 83 questionnaires retrieved and the results are as presented in the tables below.

### Demographic information of the respondents

**Table 1: Demographic data**

	Frequency	Percentage (%)
<b>Gender</b>		
Female	35	41.8
Male	48	58.2
<b>Total</b>	<b>83</b>	<b>100</b>
<b>Age</b>		
20 – 30	22	27
31 – 40	33	40
41 – 50	21	25
51 – 60	6	7
61 and above	1	1
<b>Total</b>	<b>83</b>	<b>100</b>
<b>Educational qualification</b>		
OND/TECHNICAL/NCE	27	32.5
B.Sc/ B.A/ HND or equivalent	29	35
Masters	19	23.3
Others	8	9.2
<b>Total</b>	<b>83</b>	<b>100</b>

Field Survey, 2021

The respondents that took part in the study comprises both male (58.2%) and female (41.8%) with ages ranging from 20 through 61 years and above. The participants were all literate as they have attained certain levels of educational qualification. This shows that all the participants were capable responding to the questionnaire unaided.

**RQ 1: What is the importance of training and retraining of passenger boats in the safety of lives and properties?**

**Table 2: The importance of training and retraining of passenger boats in the safety of lives and properties**

SN	STATEMENT	SA	%	A	%	D	%	SD	%	% in agreement
1	Training and retraining of passenger boats updates existing knowledge on marine operations and safety tips	37	45	35	42.5	10	12.5	0	0	87.5
2	It enables the acquisition of experience in the marine industry for safety of lives	11	13.3	51	61.7	12	15.8	8	9.2	75
3	It ensures effective navigation on the sea	37	45	35	42.5	10	12.5	0	0	87.5
4	It enables understanding of emergency announcements that may be broadcast on the ship during an emergency or drill.	25	30	47	56.7	11	13.3	0	0	86.7
5	It improve skills, efficiency and overall productivity	23	28.3	51	61.7	8	10	0	0	90

**Field Survey, 2021**

Table 2 above presents the opinions of the respondents on the importance of training and retraining of passenger boats in the safety of lives and properties. With above 75% in agreement, all the items in the questionnaire were considered as importance of training and retraining of passenger boats in the safety of lives and properties. This study therefore conclude that: training and retraining of passenger boats updates existing knowledge on marine operations and safety tips (87.5%); enables the acquisition of experience in the marine industry for safety of lives (75%); ensures effective navigation on the sea (87.5%); enables understanding of emergency announcements that may be broadcast on the ship during an emergency or drill (86.7%); and improve skills, efficiency and overall productivity (90%).

**RQ 2: What are the trainings given to passenger boats seafarers to ensure safety of lives and properties?**

**Table 3: The trainings given to passenger boats seafarers to ensure safety of lives and properties**

SN	STATEMENT	SA	%	A	%	D	%	SD	%	% in agreement
1	Personal survival techniques	50	60.8	33	39.2	0	0	0	0	100
2	Elementary first aid	17	20	66	80	0	0	0	0	100
3	Fire prevention and fire fighting	23	28.3	51	61.7	8	10	0	0	90
4	Personal safety and social responsibilities	35	41.7	35	41.7	14	16.7	0	0	83.4

**Field Survey, 2021**

Table 3 above presents the respondents opinions on the trainings given to passenger boats seafarers to ensure safety of lives and properties. With above 80% in agreement to all the items in the table, it is concluded that, the following are some of the trainings that are given to passenger boats seafarers to ensure safety of lives and properties (100%); Personal survival techniques(100% ); Elementary first aid(100%); Fire prevention and firefighting (90%); and Personal safety and social responsibilities (83.4%)

**RQ 3: How do training passenger boat seafarers prevent accidents involving lives?**

**Table 4: How training passenger boat seafarers prevent accidents involving lives**

SN	STATEMENT	SA	%	A	%	D	%	SD	%	% in agreement
1	It enables identification of emergency situations that may threaten lives and properties	16	19.2	48	58.3	19	22.5	0	0	77.5
2	It enhances their state of readiness to respond to emergency situations	14	16.7	69	83.3	0	0	0	0	100
3	It enables them have an understanding of immediate action to be taken in cases of emergency or casualty	13	15.8	57	68.3	13	15.8	0	0	84.1
4	It familiarizes them on the correct use of personal safety equipment	39	47.5	44	52.5	0	0	0	0	100

**Field Survey, 2021**

Table 4 presents how training passenger boat seafarers prevent accidents involving lives. As indicated in the table, the respondents believes that training and retraining enables them to identify emergency situations that may threaten lives and properties (77.5%); It enhances their state of readiness to respond to emergency situations (100%); It enables them have an understanding of immediate action to be taken in cases of emergency or casualty (84.1%); It familiarizes them on the correct use of personal safety equipment (100%).

**10 Discussion**

Learning is an unending life process as there is always something new to learn. This paper specifically investigates the place that has no training and retraining of passenger boats in ensuring the safety of lives and properties. In carrying out this study, three research questions were formulated. One of the objectives of the study was to identify the importance of training and retraining of passenger boats in the safety of lives and properties. The result of the study listed out importance of training and retraining which include: updating existing knowledge on marine operations and safety tips; enabling the acquisition of experience in the marine industry for safety of lives; ensuring effective navigation on the sea; enabling understanding of emergency announcements that may be broadcast on the ship during an emergency or drill; and improving skills, efficiency and overall productivity. This implies that training and retraining is inevitable for the safety of lives and property of the seafarers. The result is in support with

Dragomir and Utureanu (2016) who found training as a prerequisite for ensuring that a vessel maintains a high standard of operation. In same vein, the study agrees with Barsan et al.(2011) who also see training as key tool that keep employee to date in the happenings in the business world, which when apply to seafarer, it helps to keep them up to date in meeting competitive advantage.

The second objective was to identify the different types of trainings that are given to passenger boats seafarers to ensure safety of lives and properties. The result of the study revealed that the following trainings: Personal survival techniques; Elementary first aid; Fire prevention and firefighting; and Personal safety and social responsibilities. This corresponded with the list of training and retraining programmes proposed in Raunek (2020); Hristova(2019), and Shangchun (2000).

Finally, the study investigated how training passenger boat seafarers prevent accidents involving lives; and the result indicated that training and retraining enables passenger boat seafarers to identify emergency situations that may threaten lives and properties; enhances their state of readiness to respond to emergency situations; enables them have an understanding of immediate action to be taken in cases of emergency or casualty; familiarizes them on the correct use of personal safety equipment. This result is in support with Amir et al., (2020) whose study indicated that training and retraining improves the knowledge, attitude and behaviour of seafarers and enables them to always be alert in emergency situations and be acquainted with what to do in such situation.

The study also recommends that the training should be adequately finance and the training scheme be done systematically to make it more meaningful. Government should give grants to private seafarers to promote training a d retraining scheme given that some people and organization shy away from training because of inadequacy of finance

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**APPENDIX****TRAINING AND RETRAINING OF PASSENGER BOATS: A TOOL TO SAFETY OF LIVES AND PROPERTIES****REQUEST FOR INFORMATION**

Dear Respondent,

I am carrying out a study on “training and retraining of passenger boats, a tool to safety of lives and properties”, and you have been chosen to be part of the study. This questionnaire is only for academic purposes. Kindly select the response which applies to you and all information will be kept confidential

**SECTION A**

**Gender:** Male ( ) Female ( )

**Education qualification**

- a) OND/NCE ( )  
 b) B.Sc./ HND ( )  
 c) M. Sc./MBA ( )  
 d) Others ( ) Specify.....

**Years of experience**

- i. Less than 5 years ( )  
 ii. 5 but less than 10 years ( )  
 iii. 10 but less than 20 years ( )  
 iv. 20 years and above ( )

**SECTION B:**

Instructions: Please tick (√) as appropriate where

SA = Strongly Agree (SA), A = Agree, D = Disagree (D), SD = Strongly Disagree (SD)

**Key: Strongly agree (4), Agree (3), Disagree (2), and strongly disagree (1).**

S/N	ITEMS	SA	A	D	SD
<b>RQ1</b>	<b>What is the importance of training and retraining of passenger boats in the safety of lives and properties?</b>				
<b>1</b>	Training and retraining of passenger boats updates existing knowledge on marine operations and safety tips				
<b>2</b>	It enables the acquisition of experience in the marine industry for safety of lives				
<b>3</b>	It ensures effective navigation on the sea				
<b>4</b>	It enables understanding of emergency announcements that may be broadcast on the ship during an emergency or drill.				
<b>5</b>	It improve skills, efficiency and overall productivity				
<b>RQ2</b>	<b>What are the trainings given to passenger boats seafarers to ensure safety of lives and properties?</b>				
<b>6</b>	Personal survival techniques				
<b>7</b>	Elementary first aid				
<b>8</b>	Fire prevention and fire fighting				
<b>9</b>	Personal safety and social responsibilities				
<b>RQ3</b>	<b>How do training passenger boat seafarers prevent accidents involving lives and properties?</b>				
<b>10</b>	It enables identification of emergency situations that may threaten lives and properties				
<b>11</b>	It enhances their state of readiness to respond to emergency situations				



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12	It enables them have an understanding of immediate action to be taken in cases of emergency or casualty				
13	It familiarizes them on the correct use of personal safety equipment				