

2015

# Assessment of quality of training and education of seafarers in South Africa and Ghana

Mafemani Tiyisa Henry Maringa  
*World Maritime University*

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**WORLD MARITIME UNIVERSITY**

**Malmö, Sweden**

**ASSESSMENT OF QUALITY OF TRAINING AND  
EDUCATION OF SEAFARERS IN SOUTH  
AFRICA AND GHANA**

**By**

**MAFEMANI TIYISA HENRY MARINGA**

**South Africa**

A dissertation submitted to the World Maritime University in partial  
Fulfillment of the requirements for the award of the degree of

**MASTER OF SCIENCE**

**In**

**MARITIME AFFAIRS**

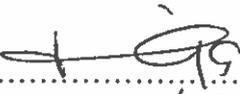
**(MARITIME EDUCATION AND TRAINING)**

**2015**

## DECLARATION

I certify that all the material in this dissertation that is not my own work has been identified, and that no material is included for which a degree has previously been conferred on me.

The contents of this dissertation reflect my own personal views, and are not necessarily endorsed by the University.

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## **ABSTRACT**

Title of dissertation: **Assessment of Quality of Training and Education of Seafarers in South Africa and Ghana**

Degree: **MSc**

Attaining quality in maritime education and training is very crucial for effective maritime development. Quality MET has therefore become an imperative for countries wishing to effectively develop their maritime sectors. This dissertation sought to assess the quality of maritime education and training from the perspectives of seafarers in Africa, with specific reference to South Africa and Ghana. Participants for the study included maritime administrators, MET lecturers, and seafarers, in both Ghana and South Africa, who were selected using the purposive sampling method. The qualitative research method was employed to investigate the objectives of the study. The findings of the study revealed that deficient maritime instruction methods are employed in the MET institutions of the two countries and that seafarers are not able to effectively apply knowledge acquired from their education and training in their lines of work. The findings of the study also revealed that a number of challenges impede the attainment of quality MET in Africa. These findings therefore have implications for the development of the maritime potentials of Africa as a whole. One major recommendation by the study is that there should be institutional collaborations across Africa in MET as stressed by the African Maritime Transport Charter.

**KEYWORDS:** Ghana, Seafarer, South Africa, Quality of Maritime Education and Training

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## LIST OF ABBREVIATIONS

African Maritime Transport Charter	AMTC
American Educational Research Association	AERA
Automatic Radar Plotting Aid	ARPA
Bachelor of Science	Bsc
Centers of Excellence	CoE
Convention on Standards of Training Certification and Watchkeeping	STCW
Electronic Charts Displaying and Information Systems	ECDIS
Ghana Maritime Authority	GMA
International Maritime Organisation	IMO
Maritime Education and Training	MET
National Qualification Framework	NQF
Regional Maritime University	RMU
South African Maritime Safety Authority	SAMSA
South African Maritime Training Authority	SAMTRA
South African Qualification Authority	SAQA
Transport Education Training Authority	TETA

## **CHAPTER ONE**

### **1.0 Background of the Study**

#### **1.1 Introduction**

The review on maritime transport by the United Nations Conference on Trade and Development (2014) indicated that seaborne trade accounted for about 90 per cent of international trade. The review also revealed that world seaborne trade grew by 3.3 per cent in 2013 and that the same forecast is to grow by 4.2 per cent in 2014. However, this growth in seaborne trade is met with challenges, not only in the deficit supply of seafarers as reported, but also increasing concerns about the quality of the current seafarers (Li and Wonham, 1999 cited in Froholdt and Hansen, 2010). This has further consequences for maritime safety, maritime environmental protection, maritime security, and efficiency on seaborne transportation.

In the evolution of modern vessels for maritime transportation, their design and structure has become sophisticated. There is continuous integration of technology onboard vessels to optimize efficiency, effectiveness which is aimed at increasing performance gains. Consequently, the technical skills and performance of crew is critical to the overall success of maritime transport. According to the International Transport Workers' Federation (2013, p3), "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". Three decades ago, the International Maritime Organisation (IMO) associated 80 per cent of accidents at sea to human factors (DeLucia, 2011). In efforts to ensure the training of competent seafarers for the international shipping industry, the IMO established the International Convention on Standards of Training, Certification and Watchkeeping (STCW) in 1978 (Ziarati, Ziarati & Acar, 2012).

The STCW 1978 convention as amended, spell out the requirement for training and educating seafarers and these regulations are binding to seafarers, maritime training

institutions, ship owners and governments (International Transport, 2013). All parties who are signatory to the convention are to ensure that their maritime training institutions adhere to the STCW standards aimed at improving the competency of seafarers. In the STCW 2010, the focus was shifted from mere knowledge to practical skills and competence. In effect, seafarers are required to observe professionalism and competence in their duties.

There is no doubt that the international community, sub regions, and governments of maritime nations have been striving to achieve some reasonable level of quality in maritime training and education. This is mostly demonstrated by the constant review of training and education standards.

## **1.2 Problem Statement**

Seafarer training and education varies geographically in the methods, infrastructure and facilities available. Developing countries, especially those in Africa are challenged with providing quality training and education than the developed countries, due to resource constraints. A report by (Froholdt and Hansen, 2010, p.7) stated that the EU policymakers, nationals and industry have a dedicated responsibility “to ensure that education and competence development is globally oriented and based on a high level of excellence, in order to maintain industrial competitiveness and address the further globalization that lies ahead due to the economic growth in developing countries. Due to a general concern about the development of a variety of quality in global education and training.”

According to (Froholdt and Hansen, 2010, p.8) the EU addressed this problem “at national levels and in the European Maritime Transport Strategy (2008-2018), where it is sought to promote transnational collaborations between European Maritime Academies and Training Institutions and partnerships that work to establish ‘maritime certificates of excellence’.” Therefore, one way of overcoming these resource constraints is by enhancing collaboration among maritime training institutions in Africa. Quality assessment is important to ensure that seafarers

acquire the requisite skills to work on ships as it can reveal the flaws in the maritime education and training system in any country. However, most of these assessments concentrate on the Maritime Education and Training (MET) providing institutions and maritime administrations without obtaining the seafarers' perspectives on quality.

### **1.3 Main Objective**

The main objective of the study is to assess the quality of maritime education and training from the perspectives of seafarers in Africa, with specific reference to South Africa and Ghana.

### **1.4 Sub Objectives**

- 1.4.1 To obtain seafarers opinion on the methods of instruction in MET institutions in Ghana and South Africa.
- 1.4.2 To understand the impact of training seafarers receive in their line of work.
- 1.4.3 To identify the problems hindering the attainment of quality training and education of seafarers.
- 1.4.4 To find out ways of enhancing quality of maritime training and development and coordination among MET institutions in South Africa and Ghana.

### **1.5 Research Questions**

- 1.5.1 What methods of instructions are employed in MET institutions and how satisfactory are these to seafarers?
- 1.5.2 What are the impacts and effectiveness of MET on seafarers onboard ships?
- 1.5.3 What are the problems hindering the attainment of quality training and education of seafarers?

- 1.5.4 How can maritime education and training in South Africa and Ghana be enhanced and in what ways can coordination be enhanced among MET institutions in these two countries?

## **1.6 Operational Definition of quality MET and CoE**

### **1.6.1 Definition of Quality MET**

On “training and assessment” of seafarers, the STCW section A-I/6 stated that:

*“Each Party shall ensure that all training and assessment of seafarers for certification under the Convention is: structured in accordance with written programmes, including such methods and media of delivery, procedures, and course material as are necessary to achieve the prescribed standard of competence; and conducted, monitored, evaluated and supported by persons qualified in accordance with paragraphs 4, 5 and 6”* (International Maritime Organization,” 2010, p.14).

Quality of training and education of seafarers is used in this study to refer to system that follow the specifications stated in the STCW code regarding training and assessment of seafarers. In addition to these specifications, maritime administrations acting on behalf of parties are to ensure that instructors, supervisors, and assessors are appropriately qualified.

Section A-I/8 “quality standards” further added that:

*“Each Party shall ensure that the education and training objectives and related standards of competence to be achieved are clearly defined and that the levels of knowledge, understanding and skills appropriate to the examinations and assessments required under the Convention are identified. The objectives and related quality standards may be specified separately for different courses and training programmes and shall cover the administration of the certification system.”* (International Maritime Organization, 2010, p.21).

### **1.6.2 Centre of Excellence**

The concept of (CoE) has gained a lot of recognition among some member states. The CoE has been linked to quality of learning. According to (Hellström, 2013) CoE may be described as organisational environments that strive for and succeed in developing high standards of conduct in a field of research, innovation or learning. The Framework Programme for Research and Technological Development of the EU launched a programme to create CoE in European countries. In Denmark for example, the Danish National Research Foundation initiated the CoE to bring improvements to the Danish research system.

The Danish National Research Foundation has, with the mission to promote science at the highest international level, established 44 centres of excellence and commissioned a number of other initiatives within the Danish research system. A report of an international panel on evaluation of the Danish national research foundation CoE concluded that the important objective of research of the highest quality has been successfully achieved (European Commission, 2003).

The National Contact Point (2015) says that Polish CoE objectives are to promote internationally the best Polish research centres; to strengthen the international co-operation within the European Research Area; and to create stronger links between academia and industry which stimulate development of innovative ideas and solutions. Majority of Polish CoE have achieved the high level of scientific and research results. Countries in the world therefore are working with CoE as a quality concept (Hellström, 2013; European Association for Quality Assurance, 2014). There is a newly established CoE in South Africa but Ghana is yet to have one.

## **1.7 Scope and Justification of the Dissertation**

The study assesses the quality of maritime education and training from the seafarer's perspective. Quality training and education translates into how effective seafarers carry out their duties on board ships, and seafarers are therefore better placed to offer valuable insights into quality issues. Also, in this study, the focus is on a comparative assessment of quality of training and education in Ghana and South Africa, with a view to giving a better understanding of the nature of maritime training and education in Africa. Furthermore, seafarers under consideration in this study are those within the officer ranks in the Deck and Engine Departments on sea going vessels. The targeting of seafarers within the officer rank is based on the rationale that such officers may have gathered higher experience and training than those in the lower ranks, and would therefore offer rich perspectives.

## **1.8 Structure of the Dissertation**

The chapter one introduces the study by highlighting the problem, objectives, scope, justification and research questions, the rest of the thesis is divided into four chapters. The chapter two discusses the research method and techniques employed to investigate the objectives. The chapter three investigates the existing literature on maritime education and training. The chapter four is the core of the study. In this chapter, the objectives of the study is discusses. The chapter five will be the findings of the study as well as recommendations.

## CHAPTER TWO

### 2.0 Research Methodology

#### 2.1 Introduction

In this chapter, the method employed in the study, which is mainly the qualitative method, is described and a justification is provided. The data sources and techniques used in collecting the data are discussed in detail. Furthermore, the target group and participant selection procedure is discussed. The chapter also addresses the limitations encountered in the field. Finally, it presents a brief discussion on quantitative techniques that were employed to aid in analyzing data collected with Google Doc form.

#### 2.2 Data Sources

A combination of different types and sources of data is required to answer the questions raised in the objectives of this study. According to (Assessment Capacities Project, 2012, p.2):

*“Primary data is most generally understood as data gathered from the information source and which has not undergone analysis before being included in the needs assessment. Primary data is collected directly from the affected population by the assessment team through field work. Primary data is most often collected through face to face interviews or discussions with members of the affected community, but can also be gathered through phone interviews, radio communication, email exchange, and direct observation. Secondary data is information which has typically been collected by researchers not involved in the current assessment and has undergone at least one layer of analysis prior to inclusion in the needs assessment. Secondary data can comprise published research, internet materials, media reports, and data which has been cleaned, analysed and collected for a*

*purpose other than the needs assessment, such as academic research or an agency or sector specific monitoring reports.”*

Data for the study of the quality of maritime training and education from the seafarer’s perspective was assessed from both primary and secondary sources. Primary data is data obtained first-hand by the researcher whilst secondary data is data obtained from the work of others.

The study also assesses information from reports, journals, books and other publications. The information obtained from these sources includes seafarer training and certification standards, and local implementation of international regulations on maritime training and education in both countries under study. Reports and publications from the national maritime administrations, and MET institutions in both countries are also accessed. For example, Deacon (2006) has done a lot on the Maritime Transport Sector in South Africa that was useful. South African Maritime and Safety Authority (SAMSA) (2011) publication on maritime skills development and job opportunities, and key challenges and annual reports also form good secondary data sources. The Ghana Maritime Authority has published annual reports on its website that the study relied upon. Information from both sources will be complementary and therefore help enrich the findings of the research.

### **2.3 Qualitative Research Method**

In obtaining primary data, the qualitative research method was mainly used to investigate the objectives of the study. The Qualitative method generally seeks to find answers to the “what”, “how” and “why” questions (Mikkelsen, 1995; Winchester & Rofe, 2010 and McCusker & Gunaydin, 2014). The qualitative research enables a deep exploration and description of issues, events, and perspectives with mostly fewer participants than its quantitative counterpart. The qualitative method also allows for flexibility, as adjustments can be made during the process of the research (Davis & Baulch, 2010).

Many factors come into play in the choice of research methods that researchers employ. McCusker and Gunaydin (2014) argue that in order to settle on the choice of research method, whether quantitative or qualitative, evaluations have to be made on the suitability of either method to the field of study. Sumabe (2013) also rightly argues that it is the nature of the research questions that determine the choice of research method. The nature of this study makes it suitable to use the qualitative method. The qualitative method enabled deeper investigation of quality issues in maritime education and training. Besides, since the study is based more on assessing quality of maritime education and training from the seafarer's perspective, the qualitative research method is more suitable for obtaining such information.

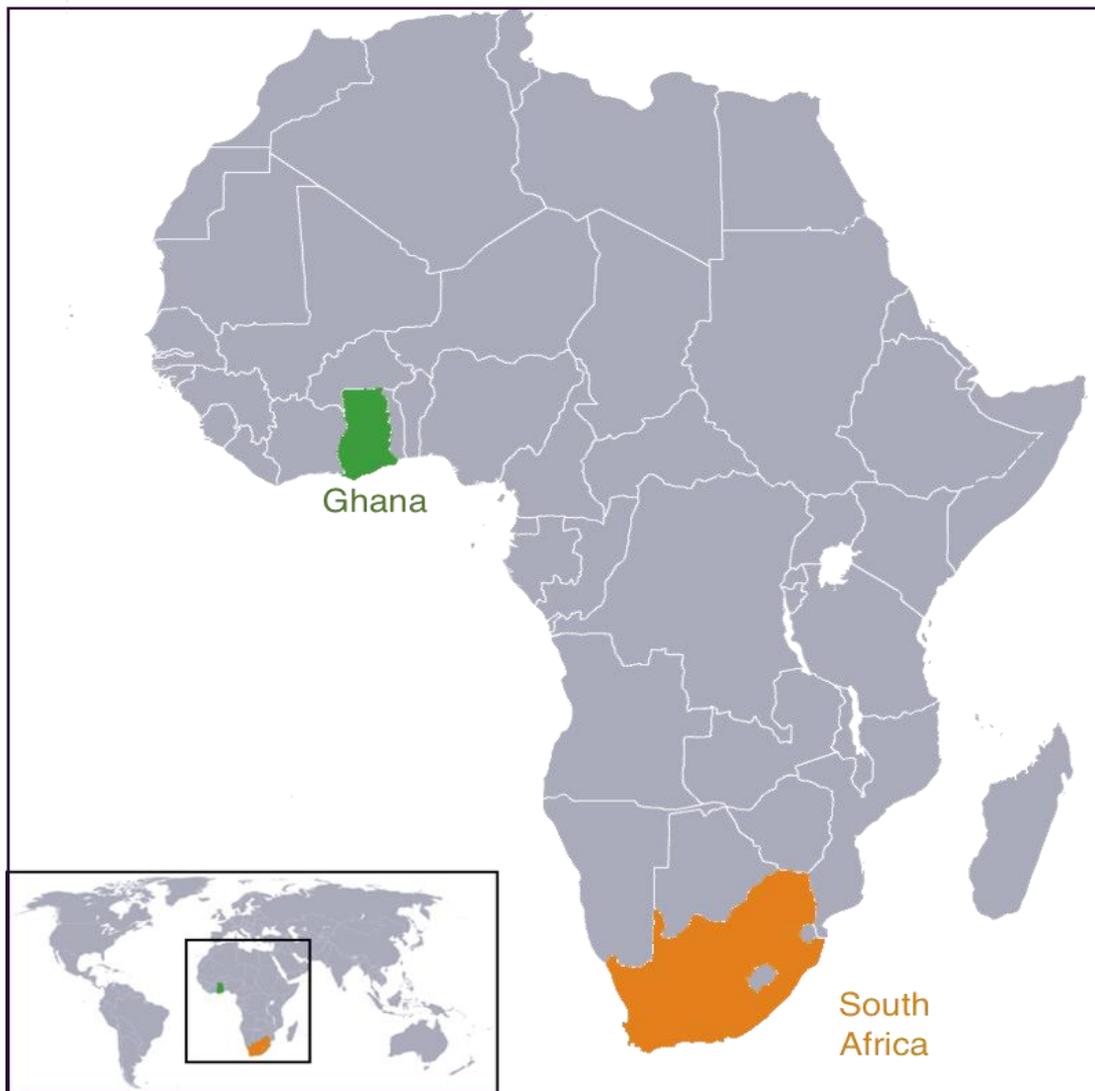
#### **2.4 Target Group**

The study targeted Ghanaian and South African seafarers who are within the officer ranks in the Deck and Engine Departments on sea going vessels. The targeting of seafarers within the officer rank is based on the rationale that such officers may have gathered higher experience and training than those in the lower ranks, and would therefore offer rich perspectives. In Ghana, the Regional Maritime University which is the main MET institution was targeted. Cape Peninsula University of Technology, Durban University Technology and SAMTRA, a contracted organization in charge of managing cadet training programs were also targeted. These institutions were targeted since they are the basis of training and education for the Seafarer.

#### **2.5 Geographical Location of Ghana and South Africa**

Figure 1 shows a map of Africa indicating the geographical locations of Ghana and South Africa. Ghana is geographically located in West Africa. The country is bordered to the south by the Gulf of Guinea in the Atlantic Ocean. Ghana has a coastline of approximately 537km stretching from east to west in the Gulf of Guinea (Accra Expat, 2015). South Africa is the southern-most country in Africa bordered by the India Ocean to the east and the Atlantic Ocean to the west. South African government reports stated that the country's coastline stretching more than 2500km

from the desert border with Namibia on the Atlantic coast, southwards around the tip of Africa, then north to the border with subtropical Mozambique on the Indian Ocean.



Source: Wikipedia, “Discott uploads:” [https://en.wikipedia.org/wiki/Ghana–South\\_Africa\\_relations#/media/File:Ghana\\_South\\_Africa\\_Locator.png](https://en.wikipedia.org/wiki/Ghana–South_Africa_relations#/media/File:Ghana_South_Africa_Locator.png) (Edited by Author)

Figure 1: Map of Africa indicating locations Ghana (green) and South Africa (orange), Inset at bottom left corner is the World Map.

## **2.6 Participant Selection**

In qualitative research, a lot of consideration takes place as to how to select relevant participants for a research, in order to enable the discovery of rich and deep information. The study adopts the purposeful sampling method to select participants for the study. According to (Patton 2002), purposeful selection in qualitative research fits the purpose, questions, resources available, and constraints of the study than the random sampling technique. This study employed the purposeful selecting method in order to make room for the appropriate seafarers to be selected among the engine and deck departments.

The study selected a total of thirty (30) participants for the study. Out of this, twenty-four (24) participants were selected from seafarers in the Deck and Engine officer positions whilst six (6) non-seafarers were selected for the study. Hence, there were a total of 15 participants each from both Ghana and South Africa respectively.

## **2.7 Qualitative Research Techniques**

The main qualitative research techniques that the study used are in-depth interviews and key informant interviews. According to DeLyser and Sui (2014), interviewing is one of the most enduring means of collecting data in qualitative research. An interview is the process in which information can be obtained from people by the use of telephone, on a face-to-face basis, or by other computer mediated systems (Dunn, 2010). The interview techniques used includes face-to-face, Google Docs Forms, and emails.

### **2.7.1 Face-to-Face In-Depth Interview**

An in-depth interview is the process of obtaining thick perspectives on a particular issue from a relatively smaller number of people (Mikkelsen, 1995; Boyce & Neal, 2006). In-depth interviews were used to assess lecturers' opinions on the methods of instructions in MET institutions, the hindrance to obtaining quality training and

education, and the value of training and education gained in the seafarer's line of work.

### **2.7.2 Google Docs Forms Interviews**

Google docs forms were used for most of the surveys. The questions were framed into Google doc forms and electronically sent to participants, with responses added automatically to a spreadsheet. This format helped to get responses from participants whom due to time difference and work schedule did not allow them time to respond to phone interviews. This also took away the problems and errors associated with transcribing information from recorded interviews on phone. Participants were allowed to answer and continue at a later time. These online surveys were useful also because they provide opportunities for users to share their views on training and certification of seafarers. The generation of spreadsheet facilitated preparation of qualitative responses into profiles for the analysis. Overall the techniques added to the quality of the data obtained. The forms were also created to allow mobile friendly answering and enabled the respondents to send in their responses from mobile phone browsers.

The procedure and requirements involved in creating and administration of the online survey with Google Docs Forms is as follows. First and foremost, a functioning Google account was required as Google Docs is linked to an email account. When this requirement was met, the questions needed to be formatted in the frame desirable. In this survey, the questions were in interview format so there was no need to include drops choices for the participants. Generally, a space was provided for them to key in their responses. Once the formatting of the questions was done, the researcher log in to Google account and followed the Google dashboard to locate "new" and under drop window, "forms."

The editing mode window was opened and the questions are typed in. The best option for filling in the questions was the "paragraph text" meant for allowing

respondents to fill in their responses in written text. Other options included, multiple choice, checkboxes, choose from list, and scale. Under the condition that the qualitative data was used for the research, the appropriate method was either text or paragraph text. The paragraph text allowed room for more text to be added that is why it was selected over the text option. The interviews were saved after the editing was done and the live survey was published. Participants were sent emails to follow the links and complete the forms online. Prior contact was made with participants to explain how they could fill the forms online and submit.

The responses were sent back and when participants had finished filling the forms online and submitted their responses. The responses were analysed using Google spreadsheet. But because this study involved qualitative data, the responses were just copies from the spreadsheets were downloaded and used for profile building.

### **2.7.3 Google Docs Form Data Analysis**

Although this study mainly relied on qualitative data from interviews of participants, the choice of online Google Docs Form as the best form conducting surveys compelled the study to rely on basic quantitative techniques in presenting summaries of data. To a large extent these quantitative techniques were used to present participants' turnouts in certain responses.

### **2.7.4 Email Respondents**

Some of the participants were also sent emails with the questions. The participants sent back emails with the responses to the appropriate questions. The email method also eliminated the need for transcription of recorded data. In addition, it allowed participants the time convenient for them to answer and sent back their responses. There was however a challenge with one participant from South Africa using these techniques. The participant did not understand the questions and it resulted in a return email that did not contain answers to the questions.

## 2.8 Data Collection Seafarers

The study scheduled to conduct interviews with a total of Twenty-four (24) seafarers. Eight (8) participants were to be drawn from are in the third officer (Deck and Engine) rank, Eight (8) in the second officer (Deck and Engine) rank, and Eight (8) in the first officer (Deck and Engine) rank. A total of 12 seafarers each were to be drawn from Ghana and South Africa for the investigation (see Table 1).

Table 1: Participants for the investigation

PARTICIPANTS		COUNTRIES	
		Ghana	South Africa
Seafarers	Third officer	4	4
	Second officer	4	4
	First officer	4	4
Seafarer sub-total		12	12
Lecturers from MET Institutions		2	2
Maritime Administrators		1	1
Total Participants		15	15
Grand Total (participants from both countries)		30	

Source: Author's construct

The study also conducted key informant interviews. Key informant interviews involve obtaining information from people with specialized knowledge on an issue the researcher wants to investigate (Kumar, 1989 and Mikkelsen, 1995). Six (6) key informant interviews were scheduled, with three (3) each from Ghana and South Africa. Out of the six (6) participants, the study interviewed four people from MET institutions in both Ghana and South Africa (2 each), as well as two people from the Maritime Administrations of both countries (1 each) (see details in Table 1). Issues to be addressed using this technique are aimed at the quality of seafarer training and education, training methods, challenges and ways to improve quality of seafarer training and education.

## **2.9 Participants Turnout for Interviews**

The turnout for the participants is as follows: 1 former Lecturer of the MET institution in Ghana was engaged with face-face interview. One maritime Administrator from South Africa was sent an email with the interview guide. The turnout is summarized on Table 2.

Table 2: Participants turnout during the investigation

PARTICIPANTS TURNOUT		COUNTRIES	
		Ghana/interview techniques	South Africa/ interview techniques
Seafarers	Third officer	4-Google Docs form	4- Google Docs form
	Second officer	4- Google Docs form	4- Google Docs form
	First officer	4- Google Docs form	4- Google Docs form
Seafarer sub-total		12	12
Lecturers from MET Institutions		2 – face-to-face interview, one absent	2- Google Docs form
Maritime Administrators		1- Google Docs form	1- Google Docs form
Total Participants		14	15
Grand Total (participants from both countries)		29	

Source: Author's construct

The remaining participants were sent links to answer survey using Google Docs Forms. In all twenty-eight 28 respondents answer the questions through Google forms.

## **2.10 Identification and Establishment of Contact with Participants**

The Researcher established contact with participants from maritime administrations both in South Africa and in Ghana. Through them contacts of lectures from MTEs and seafarers were also obtained. The Researcher made telephone calls to seafarers and METs lecturers to inform them of the study and to seek their concern to go ahead with questions. The Researcher informed them of the option to email the questions or to send them a link to follow up and complete them on Google Docs forms as well as a choice to call them for the interviews on phone. Because of time differences none of the participants selected to be involve in a telephone interview. Based on the choices participants made either links to Google docs forms were sent to them or the questions were sent in an email and responses were sent back.

## **2.11 Interview Questions**

The interview questions that were emailed to participants or uploaded on the Google Doc Form are discussed as follows. The interview guide was divided into three for Seafarers, MET Lecturers, and Maritime Administrators. The Google Doc forms included two questions that were not part of the questions sent via email. The questions include “what is your location?” and “what is your background?” These two were set as required questions on the Google form. This was necessary to distinguish whether participants were from Ghana or South Africa and also to distinguish between Seafarers, MET Lecturers and Maritime Administrators.

The questions for the three groups of participants were structured to cover the four specific objectives of the study. There questions meant to obtain seafarers opinion on the methods of instruction in MET institutions in the two countries; and to understand the impact of training seafarers receive in their line of work. The questions also covered areas on the problems hindering the attainment of quality training and education of seafarers; and ways of enhancing quality of maritime training and development and coordination among MET institutions in South Africa and Ghana.

The following questions were used for the interviews with seafarer participants. To help obtain seafarers opinion on the methods of instruction in MET institutions in Ghana and South Africa, the seafarers were asked “What institution(s) did you attend?” This question was meant to understand the MET institutions a participant attained their training from. In Ghana all the seafarer participants attended the Regional Maritime University. But in South Africa there were quite a number of schools.

The second question for the seafarers was “What methods of instructions are used in Maritime Education and Training (MET) institutions that you attended?” This question was meant to test whether theory, simulations, practical, and industrial visit were part of the methods adopted by MET institutions in training seafarers. The study viewed that a bit of these methods are necessary for quality training and education. A follow up question “Are the methods satisfactory?” was used to test whether participants were satisfied with the methods of instruction in the MET institutions. The curriculum determines to a large extent the training methods used by lecturers. Therefore seafarers were also asked “What is the curriculum made-up of? This helped to further understand the relative proportion of theory work, practical training, and simulation seafarers went through before certification. All these questions help answer the first specific objective.

To help understand the impact of training seafarers receive in their line of work, the seafarers were asked the following questions “How appropriate and relevant is simulation to learning?” and “In your opinion, has the MET you attended adequately combines theory and practical teaching in its curriculum?” These were meant to test how relevant and adequate the various methods such as simulation, theory work, and practical training were in impacting knowledge and skill in students. External examination and auditing as well as accreditation from IMO are incentives for adherence to internationally approved curricula and standardization for training. To test whether students were examined through external examinations the participants

where asked, “Did your training involve external examinations? Please list the external examinations.” Participants were also asked “Do the training requirements meet the standards set by the STCW Convention?” This was to test whether MET institutions were following regulations set by IMO. The seafarers were also asked the following questions “How difficult is it for newly trained cadets from your country to get employment? Are you able to compete on the same level with seafarers from other African countries? Are you able to compete on the same level with seafarers from other countries? and How significant has your training (theory, practical, and simulation) aided you in your work on vessels?” These helped to test whether seafarers have the skills demanded by international shipping companies. Other factors may account for preference of seafarers from other regions of Africa. Interviews with a participant from Ghana indicated that sometimes seafarers from Asian countries are preferred over Ghanaian students due to extra cost in transportation. Nonetheless quality and skill are seen as major factors for employment. Global competitiveness and ability to get jobs easily would therefore suggest that training requirements are up to standard.

To help identify the problems hindering the attainment of quality training and education of seafarers and ways of enhancing quality of maritime training in South Africa and Ghana, the following questions were asked: “Do you experience any problems that hinder the attainment of quality training and education of seafarers? Please list the problems. Are these problems peculiar to only African countries? How can maritime education and training in Africa be enhanced? Do you think there is need for institutional changes?”

On the part of the maritime administrators, similar questions were asked. The only differences are that the questions were restructured to solicit information from the administrators’ perspective instead of students. For example on the first and second specific objectives to obtain seafarers opinion on the methods of instruction in MET institutions in the two countries and to understand the impact of training seafarers

receive in their line of work, the lectures were asked “What are some of the requirements on the training methods?; Do you think seafarers certified by your organization are able to compete on a global level? Do certified seafarers from your administration easily find jobs? Do you know other countries in Africa with robust Maritime Administrations Authorities and good MET institutions that can compete with you? List them.” On the second and third objective the lectures were asked the following “What are the challenges hindering quality training of seafarers in your Administration? If so, what is your Administration/Government doing to resolve these challenges? Do you think it is possible that African countries could collaborate in training and certification of seafarers? Why? Or Why not? Do you have anything to add?”

MET Lecturers were also interviewed with the same questions restructured to suit them. They were asked questions such as “What methods of instruction do you use in your MET institution? What are the standards required for methods of training seafarers? How is the curriculum designed? How is it reviewed? Are the requirements of the IMO for training and certification of seafarers by the STCW convention followed? These questions added more information to what the seafarers and administrators said in investigating the first specific objective. On the second specific objective in understanding the impact of training and education, MET lectures were asked “Do you think seafarers are able to do their work well with the training they received from your institution? Are newly trained cadets from your institution able to compete at the regional and global level with other seafarers at the same level?” and “Which countries and MET institutions are major destinations for seafarer training in Africa?” The remaining questions helped to understand objective three and four. They included “what are the challenges hindering quality training and education of seafarers in your country MET institution? Are there challenges African countries faces in training seafarers? How can training be enhanced in your MET institution?” and “Do you think African countries and MET institutions can collaborate in training seafarers?”

## **2.12 Ethical Considerations**

According to (Drew, Hardman, and Hosp, 2008, p.55) “ethics has become a cornerstone for conducting effective and meaningful research.” The World Health Organization’s report also stated that “research involving human participants must be conducted in a manner that respects the dignity, safety, and rights of research participants” (World Health Organization, 2013p.3). In undertaking this study, ethical considerations were put in place as per ethics World Maritime University Committee to ensure that no harm comes to participants in any imaginable way. Assessing the quality of MET from the seafarer’s perspective needs to be cautiously done so as not to create problems for them in their areas of work. The same was ensured for lecturers and maritime administrators drawn from Ghana and South Africa.

Drew et al. noted that every “Every researcher has a responsibility to protect the participants in an investigation.” Citing the Ethical Standards of the American Educational Research Association (AERA), Drew et al. added “it is of paramount importance that educational researchers respect the rights, privacy, dignity, and sensitivities of their research populations and also the integrity of the institutions within which the research occurs.” Dunn says that researchers are responsible for maintaining the dignity and welfare of all participants. The report added that “this obligation also entails protecting them from harm, unnecessary risks, or mental and physical discomfort that may be inherent in the research procedure” (Dunn, 2013, p.47).

### **2.12.1 Voluntary Consent**

Drew et al. (2008, p.57) says that “whether a researcher is a psychologist, educator, or anthropologist, the primary responsibilities to participants are clear: obtain consent, protect from harm, and ensure privacy.” The European Commission explained in the “European Textbook on Ethics in Research” that “there is near universal agreement that informed consent is of the first importance in research

ethics” (European Commission, 2010, p.35). According to Drew et al. “consent involves the procedure by which an individual may choose whether or not to participate in a study.”

Under consent, the responsibility of the interviewer of this study is to ensure that participants have a complete understanding of the purpose and methods to be used in the study, the risks involved, and the demands placed upon them if they opt to participate. Consent forms added to the Google Doc forms as well as the emails to ensure that participants’ consents were sought before interview questions were filled and submitted. According the European Commission, consent ensures respect for autonomy, respect for dignity, and respect for persons. It was explained to the participant that they had the right to decline from participating or withdraw from the study at any time.

### **2.12.2 Protection from Harm**

According to Drew et al. (2008), the (American Psychological Association, 2002) says that psychologists become aware that research procedures have harmed a participant, they must take reasonable steps to avoid harming their clients/ patients, students, supervisees, research participants, organizational clients, and others with whom they work, and to minimize harm where it is foresee-able and unavoidable. These principles were applied in this study. No harm was anticipated; nonetheless participants were told that they might find some of the questions personal and sensitive. They had free will to continue or opt out of the study. This ensured that no harm was done to any participant.

### **2.12.3 Ensure Privacy**

The (World Health Organization, 2013p.25) says “research relating to individuals and groups may involve the collection and storage of information that, if disclosed to third parties, could cause harm or distress. Investigators should arrange to protect the confidentiality of such information by, for example, omitting information that might

lead to the identification of individual subjects, limiting access to the information, anonymizing data, or other means.” Citing definitions from the United States Office for Human Research Protections the World Health Organization stated that “privacy can be defined in terms of having control over the extent, timing, and circumstances of sharing oneself (physically, behaviourally, or intellectually) with others.” The same report noted that “confidentiality pertains to the treatment of information that an individual has disclosed in a relationship of trust and with the expectation that it will not be divulged to others in ways that are inconsistent with the understanding of the original disclosure without permission.”

Participants were assured that the information provided would be treated with the utmost confidentiality it deserves. Privacy was assured and participants were told in the consent form that if they choose to or not to participate it will not affect their future education in any MET or certification with any Maritime Administration. All ethical considerations as far as the study is concern were observed.

### **2.13 Limitations**

There were some few constraints in undertaking this research. For some reasons not known, some participants in South Africa were not willing to answer some of the questions while others provided superficial answers. Also, conducting interviews via telephone in Ghana was a limitation. Face-to-face interviews would have afforded the Researcher the chance to probe more into the issues under investigation. However, these limitations did not have much effect on the data collected as the research techniques were carefully selected.

All the participants were sent either Google docs forms or email versions of the interview guide for filling and reverting. Although these had advantages, face-to-face interviews in a better option considering that the Researcher would have had the chance to ask follow up questions on any question they did not answer appropriately. Some of the participants filled the Google docs forms on mobile version browsers.

Although the Google docs forms are compactible to mobile browser, it was noticed that these significantly reduced the answers to questions. Participants probably strained and had difficulties typing long answers to fill the forms on smaller screens.

Closely related to this, in the email technique some participants sent back comments instead of answering the questions. On face-to-face interviews these would have been avoided since the Researcher would have had the chance to answer questions that they may have relating the study and the questions. Although it was explained in the consent form and on phone with some participants who agreed to participate, they were reluctant to fill some of the question for unknown reasons to the research. However, these limitations did not affect the data collect to any significant extent that the findings would not be valid.

## **CHAPTER 3**

### **3.0 Literature Review**

#### **3.1 Introduction**

This chapter presents a review of relevant existing literature on MET. The chapter begins by presenting the provisions of the STCW as amended, where the roles prescribed for MET institutions, maritime administrations, and shipping companies for seafarer education and training are outlined. The chapter also discusses the impacts of the STCW convention as amended on MET. Furthermore, the chapter traces the development of maritime education and training globally. The chapter also reviews literature on the challenges of MET and some suggestions on way forward. Also, the chapter reviews material on MET in Africa, with particular reference to Ghana and South Africa. The last section of the chapter then recaps on the gaps in the MET literature.

#### **3.2 Provisions of the STCW on MET**

The STCW is an embodiment of all seafarer training and related issues. The STCW 78 as amended provides the minimum requirements for seafarer training and certification for all states that are party to the convention. The Convention therefore sets out clear standards on the training and assessment of seafarers that partner countries must adhere to.

Section A-1/6 of the STCW Code, paragraph 1.1, specifically provides that Training and Assessment of Seafarers for certification under the convention are “to be structured with written programmes, including such methods and media of delivery, procedures, and course material as are necessary to achieve the prescribed standard of competence.” The Convention does not stop at setting standards for competency of seafarers, but goes further to make provisions on the qualification of persons providing training and assessment of seafarers. Section A-1/6, paragraph 3, of the

STCW Code provides that “Instructors, supervisors and assessors are appropriately qualified for the levels of training or assessment of competence of seafarers either on board or ashore.”

The STCW Convention also prescribes clear roles for maritime administrations of member states in training and educating seafarers. Regulation 1/8 of the STCW Convention makes provision for the continuous monitoring of quality standards by authorities of member states. The establishment of quality standards is elaborated in the STCW Code. Section A-1/8, Paragraph 1, of the Code mandates member states to ensure that “education and training objectives and related standards of competence to be achieved are clearly defined and that the levels of knowledge, understanding and skills appropriate to the examinations and assessments required under the convention are identified.” Another important provision in the STCW Convention as far as training and education of seafarers is concerned is that member countries should ensure that simulation based training meet quality standards. Section A-1/12 of the STCW Code sets the standards governing the use of simulators, which are largely Radar Based simulation and Automatic Radar Plotting Aid (ARPA) simulation. More significantly, paragraph 6 of Section A-1/12 of the Code outlines that parties to the conventions are to ensure that “ensure that the aims and objectives of simulator-based training are defined within an overall training programme and that specific training objectives and tasks are selected so as to relate as closely as possible to shipboard tasks and practices.”

The STCW code as amended also gives shipping companies responsibility in training and educating seafarers by setting uniform standards that stipulate the experience and training requirements under which seafarers serve on board vessels. Section A-1/14, paragraph 2, of the STCW Code provides that companies “shall provide written instructions to the master of each ship to which the STCW Convention applies, setting forth the policies and the procedures to be followed to ensure that all seafarers who are newly employed on board the ship are given a reasonable opportunity to become familiar with the shipboard equipment, operating procedures and other

arrangements needed for the proper performance of their duties, before being assigned to those duties”. This demonstrates that training transcends classroom education to include knowledge acquired on the job. That is, seafarers learn so much on board through in-service training or by observation of superiors, which complements the knowledge acquired in MET institutions and goes a long way to improving competency.

More particularly, the convention sets out the training requirements of the officers in the deck and engine departments. Regulations II/1, II/2, and II/3 provide the standard minimum requirements for certification of officers in charge of navigational watch, masters and chief mates on ships of 500 gross tonnages or more. At the engine department, Regulations III/1, III/2 and III/3 provide the mandatory minimum standard requirements for certification for officers in charge of engineering watch, chief engineer officers and second engineer officers of ships powered by main propulsion machinery ranging from 750KW to 3,000 KW propulsion power. Details of required training are stated in the STCW Code, so as to avoid ambiguities.

It is important to note that the uniform guidelines established by the Convention are essential to ensuring the quality of seafarers on board vessels. However, this is not to be misguided by the fact that differences exist among member states in terms of their maritime educational and logistical capacities. The STCW does not provide guidelines on how under equipped states can reach optimum levels of seafarer training and education, neither does it establish the most desirable optimum level of seafarer training. The minimum requirements set by the convention are therefore to be used a baseline by member states in trying to reach a desired state of seafarer training.

### **3.3 Impacts of the STCW on Seafarer Education and Training**

As insinuated above, the STCW has undergone a couple of amendments. These amendments to the STCW Convention are a good way of bringing up its utility to meet current challenges in the maritime sector. The latest amendment is the 2010 Manila amendments to the convention which seeks to among other things, enhance seafarer training and education. The study assesses the impact of the STCW Convention on seafarer training and education with a focus on the 1995 and 2010 amended provisions.

The 2010 Manila amendments made some changes to the existing convention. For the purposes of the study, only the seafarer training and education aspects are briefly highlighted. First, there is an introduction of modern methods of training which includes distance and e-learning. There is also a requirement for seafarers to undergo security training. Furthermore, there are new requirements for personnel on board vessels in polar waters, and personnel who operate dynamic position systems. There are also new requirements for seafarers to obtain training in modern technology, an example of which is the Electronic Charts Displaying and Information Systems (ECDIS). The inclusion of these new changes in the convention and the improvement of some other training provisions means that MET institutions, Maritime Administrations, and Shipping Companies have to undertake extra and dynamic roles. The STCW Code as amended has provided improved options for ensuring seafarer training quality to maritime administrations, MET institutions, as well as shipping companies.

The MET institutions are the core stake holders in seafarer training education. The STCW Code as amended is therefore vital to these institutions and structure the manner in which they design, review, and update training courses that seafarers undertake. In assessing the impact of the 2010 Manila amendments to the STCW Convention, Wei (2013) is of the view that the amendment is of great importance to MET systems. According to Wei (2013, p.43), “the amendment sets up new

standards of training and competency, bringing in not only opportunities for development, but also challenges to the global MET system”. These impacts serve to engender innovation among MET institutions in order to meet quality requirements and to have a competitive urge.

It is also worth acknowledging that the amendments have great impacts on the whole maritime education systems, including national administrations and seafarer career development. Wei (2013) encapsulates this by arguing that:

*“The amendment brings also indirect impacts upon the MET systems through the ways of, for instance, accordingly-changed national regulations for seafarer’s certification, examination and assessment, regulations for the quality system of Maritime Safety Administrations, and the competitiveness of the MET graduates in the international seafarer manpower market.”* (Wei, 2013, p.41).

Hence national administrations are therefore being challenged to live up to the revised provisions in the convention. Maritime education systems in many countries lacked expertise and required manpower and the utility of the revised convention is that it provided these countries with the concepts and procedures to develop these systems (Muirhead, 2000).

It is important to note that, in spite of the minimum requirements laid down by the STCW and all the new incorporations, differences exist in implementation among states. These differences result from prevailing economic, political, social conditions, as well as the development priorities of states. The impacts of the STCW and its amendments on member states may therefore not be cross-cutting due to the above factors.

### 3.4 The Development of MET

In every organisation, the human resource base is very essential in pushing forward organizational goals. Employee development has therefore become a priority for organizations who wish to improve on efficiency. A well trained and educated employee is capable of working more effectively than a less trained and educated one. Maritime education and the development of competencies are important elements in any strategic human resource management plan, and the elements in this plan have the capacity to address the values of the human resource base in order to react to market challenges and enhance competitiveness (Froholdt & Hansen, 2010).

Employee development in the maritime sector is very crucial as it is a much sensitive area. The human element, for instance, plays a very crucial role in maritime casualties, and much of this human aspect has to do with the incompetence associated with personnel on board ships. To ensure safety at sea, maritime environment protection, and the protection of the whole economy of the shipping industry, a competent workforce is indispensable. Seafarer training and education has therefore been evolving to ensure that at any particular time, there are more efficient personnel to deal with prevailing complexities in the maritime industry (Froholdt and Hansen 2012).

According to (Emad and Oxford 2008, p.92), “MET generally consists of *education* of knowledge of defined theoretical subjects and *training* of skills in a number of practical short duration courses, in the training institutes plus a mandatory period of seagoing experience onboard ships”. As such, seafarers are supposed to undergo some classroom based qualification as well as practical experiences on board vessels. The three main seafarer educational systems identified by (Corovic 2013) are the traditional, gradient, and university systems. According to (Corovic 2013), the traditional system takes much longer and theory and learning in this system are combined through practice.

The Gradient system takes much shorter time and the student obtains a Bachelor of Science (BSc) Degree and Officer of the Watch (OOW) certificate. Lastly, the University system takes much shorter time than the gradient system and the student can proceed to obtain a postgraduate qualification in some maritime field after completing the BSc Degree. According to (Corovic 2013) the traditional system is widely practiced in Great Britain and in countries in Asia and Africa.

MET institutions aim to attain some levels of quality so as to ensure high levels of competency on the part of students. However, the term “quality” is very fluid, in terms of what it actually means. (Fan Cun and Wei, cited in Manuel, 2005) are of the view that a quality seafarer should be equipped with skills to utilize ship technology, computers and other safety management systems; should be well versed in communication, management, leadership and human relations; and should have high levels of professional ethics. (Manuel 2005) adds that an attribute of quality in a seafarer is that the seafarer should have a desire for self-improvement, so as to keep pace with developments in the maritime sector. The shipping industry has been marked not only with sophisticated vessels, but also developments in navigation technology. Seafarers are therefore expected to keep updated with these technological developments in order to carry out their duties effectively. What this means is that, the nature of maritime education and training will continue to be adjusted on a regular basis in order to meet the changes in the maritime sector.

The development of Maritime Training and Education has long been documented. Emad and Oxford (2008) have stated that before the establishment of the STCW Code, apprenticeship was the main method by which seafarers gained competencies. They argued that traditional apprenticeship was mainly done on board vessels where new personnel learn from experienced seafarers. In describing the practices under the traditional apprenticeship which is learning by experience, Emad and Oxford (2008) document that the new seafarer:

*“... work on a ship and gradually acquire various elements of skills. In that type of training, apprentices spend hours and days watching officers and crew members at work. As an apprentice, they start with practicing basic skills—for example lookout and steering a course. From the beginning, trainees observe full processes of the job—e.g. navigation. After achieving the acceptable level of competence in these basic skills, they attempt to participate in the entire process of a simple part of the job—e.g. choosing proper landmarks and taking bearings for obtaining the position of the ship. When the apprentice became competent in that task then s/he is ready to do more complex tasks and so attempts to do the entire process of that part of the job of an officer—e.g. plotting the position on the chart, calculating and drawing courses and, later, the whole passage planning. These tasks are not practiced as an exercise but as part of the job of a navigating officer. Although the officer of the watch might check the apprentice’s work occasionally, it is the apprentice position on the chart that is used for navigation. When competent, the apprentice begins to work on another, more complex task and thus proceeds through a "curriculum" that always exercises tasks and skills in the context in which they will be used...”*

(Emand & Oxford, 2008, p. 94)

According to Kennerly (2000), since the sixteenth century when there was large scale commercial opening of oceans, the traditional apprenticeship method of acquiring competencies became outmoded as higher levels of educational qualification was then needed, and advanced vocational education in topics such as nautical astronomy were obtained from practitioners ashore. This means that from the sixteenth century, competencies were no longer solely obtained at sea, but also in conventional schools. On the subsequent evolvement of MET, Kennerly (2000) further explains that:

*“Until the nineteenth century vocational training in the practical work of ships, loosely grouped under the term "seamanship," remained experiential but from the middle of that century, state-aided navigation schools, endowed nautical schools and private establishments began to provide some training in aspects of seamanship. This approach to maritime vocational education and training was continued in the twentieth century when nautical education was largely absorbed into the state tertiary education system... the past 150 years has seen the introduction of the new technologies of power propulsion and radio communication, of new manning groups aboard ship, engineers and radio operators, and of related educational provision ashore. The marine engineering and radio schools followed a similar development to the navigation schools: mostly initially private establishments, then drawn into the state tertiary system in the twentieth century.”* (Kennerly, 2000, p. 4)

Recently, maritime education and training has witnessed a multiplication of MET institutions. There has also been an increase in the number of maritime courses and in most maritime tertiary institutions, degrees are awarded up to the master level and above. The structure of MET is now embedded in the provisions of the STCW Convention, and as stated above, the provisions provide standard guidelines that nations must adhere to in training and certifying seafarers. The study does not agree with the assertion by Emad and Oxford (2008) that since the coming into force of the STCW Convention, traditional apprenticeship has been relegated to the background. It is argued that, contrary to this assertion, the convention makes provisions for practical knowledge on the job, as stipulated in Regulation 1/14 of the Convention. The actual trend in MET can be said to be a combination of theory and practical knowledge at MET institutions as well as apprenticeship on board vessels.

### **3.5 MET Challenges and Way Forward**

A competent work force in the maritime sector is very important to ensure primary maritime objectives of ensuring safety, protecting the marine environment, and ensuring security. Maritime transport is a global industrial sector and therefore the need for a global orientation in maritime education and competence development (Froholdt & Hansen, 2010). The quality of MET offered by countries is therefore, an important factor in determining the levels of competency of seafarers. The BIMCO/ISF Report<sup>1</sup> in 2010 indicates a deficit in the supply of seafarers, especially at the officer level. The report indicates that there was a deficit supply of 13,000 officers, and indicates an increment in deficit supply of 3,000 between 2005 and 2010. This shows that if aggressive measures are not put in place to arrest the situation, the increase in shortfall supply of seafarers may cripple the shipping industry. This situation may have evolved due to the challenges in MET systems as well as in the lack of effective enforcement of regulations.

A number of reasons have been put forward in order to provide explanations for the low quality in seafarer training, especially, at the officer level (Emad & Oxford, 2008; Cerit, Zobra and Tuna, 2004; Babylon and Santos, 2011). Emad and Oxford (2008) document six reasons for ineffectiveness in global MET institutions. First, they criticize the nature of the education system which they claim assumes that theory can be separated from practice. They argue that integrating theory and practice in learning is a sure way of improving competency. Secondly, they argue that the main method of assessing student performance, which is by means of written examinations, only encourages students to learn to pass exams, with little effect on competency. Their third argument is that the practice of boxing students in one group with a strict single curricula does not lead to proper assessment of the individual knowledge levels and some of the students always end up being churned out prematurely. Fourthly, Emad and Oxford (2008) argue that different formats are used in learning in school and learning on board vessels. According to them, the lack

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of harmonization of the two learning environments creates problems of application on the job. The fifth reason for the ineffectiveness in MET is that students in maritime training institutions are not taught the effective use of technological tools on board vessels. The last reason according to the authors is that students are trained in an individualistic manner in a classroom when the actual work on board vessels is supposed to be on a teamwork basis.

Ceritet et. al (2004) also seek to argue that the poor quality of seafarers from most maritime institutions is because the education curricula is not structured based on Problem Based Learning. According to them, the dynamism in the maritime sector in terms of technological developments and multiplicity of activities does not make maritime education curricula based on general objectives effective. According to Ceritet et. al (2004), “The developments achieved through the problem based learning practices of the maritime education will not only help the improvements in the outcomes of the education systems in the industry, but this will also be a great contribution to educational practices in general due to the dynamic characteristics of the maritime industry”.

Babylon and Santos (2011), using the Philippines as a case study, outline two major challenges of MET. The first challenge according to them has to do with the forces of global seafarer demand and supply, which tends to put pressure on MET institutions to pass out students at a faster rate in order to meet demand in the shipping sector. This rush to fill the reportedly deficit supply gap tends to compromise on the quality of seafarers. The second challenge in MET they argue has to do with the implementation of training requirements in the 2010 Manila amendments to the STCW Convention and Code by MET institutions due to resource constraints. According to them, many MET institutions are not able to incorporate the new changes due to resource constraints, and this still continues to hamper on the competence of students. They however propose that deliberate government programs and effective onboard training programmes can in the long run ameliorate these challenges and improve the competency of seafarers.

## **MET in Africa**

As compared to the advanced world, maritime development in Africa can be said to be in a nascent stage. This is against the backdrop that the continent has important roles to play when it comes to issues like security, safety and environment protection, where serious challenges are faced. Developing an effective system of MET is therefore an imperative if the continent aims to be a major force in the global maritime industry. The Brenthurst Foundation (2010) in a discussion paper expresses the view that though a number of maritime educational intuitions exist in Africa, institutional cooperation and funding for maritime education should be improved. The African Union and other regional bodies must therefore do more to improve career prospects in the maritime disciplines by “broadening the scope of maritime studies and enhancing the skills and qualifications for the maritime professions” (The Brenthurst Foundation, 2010, p. 34)

The importance of maritime training and development is outlined in the African Maritime Transport Charter (2010). Article 8 of the Charter outlines the agreement on maritime education in Africa. The provisions in the charter call on member states to strengthen national and regional maritime training and institutions, and to encourage collaboration among these institutions in the region. The member states are also been tasked in the Charter to provide support in getting funding for maritime education and research institutions, and in granting scholarships for training. Another important provision in the Charter is that the parties agree to establish a common system for mutual recognition diplomas and certificates by national and regional training institutions, to enhance the chances of employment of African seafarers.

Notwithstanding the provisions in the Charter towards improving maritime training and education in Africa, efforts towards this are only piecemeal in many of the countries. The low level of economic development in many of the countries in the continent is a major setback for developing MET. The huge capital outlay is needed for establishing and resourcing maritime education and training institutions.

According to Baker (2011) the challenges preventing existing MET institutions in Africa from providing a viable platform for improving maritime governance is that, these institutions are not networked. Also, Bonnin, Ruggunan & Wood (2006) posit that African seafarers are increasingly being disadvantaged in the international labour market from the activities of Flags of Convenience states which tend to focus on employing cheap labour from the Far East, and also due to the continuous existence of racial stereotyping. These existing conditions and the challenges associate with quality MET systems weave a web of complexities around African seafarers.

Okore (1999) studies problems associated with maritime education ad training in Nigeria in the wake of new technology and international legislation and documented some challenges to be the lack of qualified MET instructors and assessors, inadequate, training and assessment tools, and inefficient competence-based and simulator bases training in the country. Similarly, Mabuti (2013) presented interesting dimensions to the nature of MET in Africa in her study of the human and technological resource challenges of the implementation of MET in Kenya. Mabuti's study revealed a shortage of qualified maritime instructors and assessors, which mostly resulted from the lack of effective localization of seafarer education and training. Mabuti (2013) also found that MET systems in Kenya were characterized by ineffective computer-based and simulation based training and under equipped laboratories for practical training purposes. The foregoing discussions attest to the fact that the African countries have similar characteristic challenges facing their maritime training and education systems.

### **3.7 MET in Ghana**

Ghana is increasingly becoming one of the most prominent maritime nations in Africa. The Ghana Maritime Authority and the Regional Maritime University are the main MET players in the country. The Ghana Maritime Authority is responsible for

the training and certification of seafarers in accordance with the STCW Convention (Ghana Maritime Authority, 2011). The Regional Maritime University, as the name suggests is not Ghanaian owned, but has a regional ownership status. The founding members of the University are the Republics of Cameroon, Ghana, the Gambia, Liberia, and Sierra Leone, and the main objective for its establishment was to promote Regional Cooperation in the maritime industry through the use of training in order to foster growth and development in the industry<sup>2</sup>.

The Regional Maritime University is the main MET institution in Ghana. The university programmes range from basic maritime training to undergraduate and postgraduate courses. The university has provided quality and internationally competitive maritime education and training towards equipping seafarers with requisite maritime skills. In educating and training seafarers, there is a strong collaboration between the Regional Maritime University and the Ghana Maritime Authority. For example, the Ghana Maritime Authority issues Eligibility Letters to Ratings and officer seafarers to undergo upgrade courses at the Regional Maritime University (Ghana Maritime University, 2011). The Ghana Maritime Authority has therefore been providing certification for seafarers across Africa.

However, seafarer education and training in Ghana also faces some challenges when it comes to the maintaining a standard quality of Seafarers. In Ghana, some of these challenges stem from the limited MET institutions, and also from economic aspects.

### **3.8 Maritime Training in South Africa**

Effective employee education and training has been one of the priorities in South Africa, just as in most developing countries. The National Qualification Framework (NQF) of South Africa sets to provide uniform standards of training in the country. The objectives of the NQF as indicated in the South African Qualifications Authority

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(SAQA) Act 1995 (Act 58) are to create an integrated national framework for learning achievements; to facilitate access to, and mobility and progression within education, training and career paths; to enhance the quality of education and training; to accelerate the redress of past unfair discrimination in education, training and employment opportunities; and to contribute to the full personal development of each learner and the social and economic development of the nation at large. It must be stated here that this framework is applicable to all forms of training and education in the country.

The MET is therefore not left out in the country's quest to obtain some quality in training and education. There are increasing attempts to improve the competency of Seafarers trained in South Africa. The Transport Education and Training Authority (TETA) and SAMSA are two most important institutions when it comes to maritime education and training in the country. The TETA provides accreditation for courses in line with the objectives of the National Qualification Framework (NQF) while the SAQA provides certification for the STCW-compliant training programmes (Bonnin, Lane, Ruggunan, and Wood, 2004). There are a total of fourteen maritime training institutions in South Africa that have courses accredited by SAMSA, and these are broadly classified into Private Enterprise In-House Training, Private Academies and Public Institutions (SAMSA, 2011). It must be noted that maritime training in these institutions is not accessed by only South African Nationals, but also by individuals from many other countries.

A number of challenges however characterize the provision of maritime education and training in South Africa. Bonnin et. al (2004) are of the view that maritime education and training as well as engagement of seafarers is facing challenges from the legacy of the apartheid system. For instance, Bonnin et. al (2006) recount that during the apartheid era, government policy did not allow blacks to undergo officer training I technical training institutions and that it was until 1996 that blacks in the country were permitted to undergo such programmes. Training of seafarers in South

Africa therefore need to take into consideration competition in the global labour market as well as ensuring equity and creating conditions for the upward advancement of black seafarers (Bonnin & Wood, 2002).

According to Bonnin and Wood (2002), there is an existence of insufficient training berths for students that graduate from the numerous MET institutions in South Africa, and this makes potential seafarers unable to make use of the qualifications they gain on the job market. This also affects their ability to undergo professional advancement as the lack of sea time prevents them from taking up upgrade courses. Bonnin and Wood (2002) found in their study that the declining seafarer training berths is attributed to global economic crisis, technological advancement in shipping, racial discrimination, registration of South African vessels on other registers, domination of South African register by the fishing industry, and the sale of Safmarine, which was registered in south Africa and engaged in liner trade and deep-sea dry-bulk. SAMSA (2011) in a study of maritime sector skills development have outlined a number of challenges that seafarer education and training in South Africa faces.

The study reveals that there exists a deficit gap in maritime technical skills in the country which is attributed to both the absence of training options and quality of training. The report by SAMSA also reveals the faults in the South African educational system which brings about a gap between existing trained seafarers and market demand for specific qualifications. Finally, SAMSA (2011) states that the deficient correlation between training institution curricula and seafarer employability is a challenge which is attributed to the poor collaboration between private sector and the educational sector, as well as the lack of relevant information on the nature of demand and supply of the labour market by training institutions.

### **3.9 Gaps in literature on MET in Africa**

It is clear that the gaps in literature in MET in Africa are implicitly stated in the foregoing discussion and are therefore only recapped in this section. As indicated above, assessment of quality in MET in the literature is mostly concentrated on maritime administrations and MET institutions. This mostly leaves out the views on quality from the perspectives of seafarers.

This is a major gap as seafarers are best at assessing the effectiveness of the knowledge they gain in their careers. In Africa, the assessment of quality issues in MET can best be described as deficient. The small amount of literature available are often based on singular country study which do not therefore reveal the real trend in curricula and methods of instruction in MET institutions as well as general challenges in maritime education and training in the continent. These gaps in literature are therefore addressed in this study, in a bid to providing viable options for the enhancement of MET in Africa.

## **CHAPTER FOUR**

### **4.0 Analysis - Quality of MET in Africa**

#### **4.1 Introduction**

After reviewing the literature on seafarer training and education in the previous chapter, this chapter presents the analysis and discussions of responses gathered from participants in the study. Though the assessment of quality of education and training is presented from the seafarer perspective, the responses from MET Lecturers and Maritime Administrators are also presented and analyzed. This is aimed at complementing and confirming the responses given by participants. The chapter begins by assessing some of the methods of instruction in MET institutions in both Ghana and South Africa. The focus here is on assessing the adequacy and effectiveness of these methods of instructions employed in the MET institutions. The second section in the chapter presents responses on how effective seafarers apply the maritime skills gathered from the two countries in their lines of duty. In the final section of the study, the problems hindering the attainment of quality MET are discussed.

#### **4.2 Assessing Methods of Instruction in MET Institutions in Ghana and South Africa**

As mentioned above, Ghana and South Africa are both important maritime nations in the African continent. Many professional seafarers graduate each year from the maritime educational institutions of these two countries, and these seafarers are multinational in nature. As stated in the literature, the maritime education and training institutions in both countries train nationals of many other countries in the continent. The Ghana maritime Authority (2011) reports that a total of two hundred and forty-one (241) officers in the deck and engine departments were trained in 2011 at the Regional Maritime University in accordance with the STCW convention and certified accordingly by the authority. SAMSA (2011) also reports that about five thousand, four hundred and ninety (5490) officers have been trained and certified in

South Africa. Quite a number of cadets are also reported to be passed out every year in the MET institutions in both countries. All the seafarers interviewed in Ghana attended the Regional Maritime University. As mentioned above, the Regional Maritime University is the sole academic institutions providing maritime education in the country and it also has a regional status. South Africa however has a variety of higher academic institutions offering maritime related programmes. Some of the institutions attended by seafarer participants from South Africa include Durban University of Technology, Cape Peninsula University of Technology, South African Maritime Training Academy, and the South African Naval College.

As mandated by the STCW convention as amended, seafarers are expected to attain some academic and sea time experience before they can proceed to the next level of training. Responses from seafarers in both Ghana and South Africa confirm that some form of previous qualification is required before students can enroll into higher level programmes in MET institutions. In seeking the views of seafarers on the requirements for undergoing a particular maritime training, one seafarer from Ghana was of the view that *“depending on the level the seafarer wants to study, he/she must meet the requirements as stipulated in the STCW convention, and this requirement may include both theoretical and practical knowledge.”* Another seafarer in South Africa mentions that some of the requirements for undertaking training at the officer level include *“academic achievement, practical training, and approved sea going service”*. These responses were confirmed by the officials of the maritime administrations of the two countries under study. One of the maritime administrators responded that, *“before we give clearance to seafarers for upgrade courses in the officer rank, we always make sure they are qualified as per the standards set in the STCW as amended. Seafarers are often required to submit training certificates, sea service testimonials, discharge book extracts, and proof of other professional qualifications, which are then subject to verifications in order to ascertain authenticity. In short, both academic qualification and professional experience are required in order for a seafarer to undertake an upgrade course.”* These responses

from the seafarer participants and the collaborations from maritime administrators indicate that much of the qualifications they receive are in line with the provisions of the STCW convention as amended.

The method of instruction employed in MET institutions is critical in determining the quality of education that seafarers receive. Views were sought from participants on the methods of instructions at MET institutions in the two countries. Responses from many of the seafarers interviewed on the methods of instructions they have gone through include theoretical knowledge, practical training using available tools in the engine and deck departments of the respective academic institutions, industrial visits, evaluation exercises, group tasks, and simulation exercises. However, on the issue of shipboard simulation, only seafarers from South Africa acknowledged that they have undergone some form of experience on board vessels as part of their training. This is the main difference between the methods of instructions in MET institutions in Ghana and South Africa.

Seafarer Participants however expressed mixed responses on the effectiveness of the methods of instructions. Whilst some of the seafarers were of the view that methods of instruction in their training helped them to develop their competencies, others expressed dissatisfaction on the manner in which they were imparted knowledge. A Third Class Engineer Officer in Ghana expresses his opinions below:

*“I went through my maritime education on a stage by stage basis. My highest qualification was the Junior High School level, so I had to start as an ordinary seaman. My spoken and written English was very poor, and this made it difficult for me to comprehend, especially in undertaking my Class Three Engine Limited and Unlimited programmes. In most of the lectures, the lecturer discusses the course content and gives notes to students. Students are expected to understand everything in the notes and by reading other materials. There was less practical work. To be honest, it took me a long time to pass all the papers in the Class Three Engine unlimited exams. This is not*

*because I do not know the work, but the fast manner in which the lecturers were teaching in 'Big English' made it difficult for me to comprehend."*

A Seafarer in South Africa also had problems with the limited attention been paid to the practical aspect of seafarer training. He explained that:

*"As for me, I came out of the university as a cadet. I graduated with my brains full of theoretical knowledge, with no idea as to how to apply them. You see, since my years of study, it is like we were always being taught to pass examinations. There were even instances where if you produce materials out of what the lecturer has taught you, you end up getting bad grades. It is like the students were being taught to live within the lecturer's pool of knowledge. In this our work, students must be taken out there to be shown how things work. There is an old adage that practice makes perfect, and that is how maritime training should be done. In our system here, I am afraid it is more of talking than demonstrating".*

The above two excerpts from seafarers indicate that the methods of instructions do not completely meet the provisions as set out in the STCW Convention as amended, though they may on the surface exist in the curricula design of the particular MET institutions. These responses confirm the shortfalls associated with MET instruction as identified by Emad and Oxford (2008). The responses revealed that much of maritime theoretical knowledge is imparted without considering the educational background of seafarers and without due evaluation of the appropriateness of the language used in instruction. For instance, in the case of the first seafarer, the non usage of clear and simple language of instruction can impede the understanding of basic maritime concepts. The minimal level of practical exposure in maritime training also has consequences on the quality of seafarers. These responses also confirm that the MET systems in the two countries are in a transition from the Traditional to the Gradient systems, as identified by Corovic (2013). More efforts

therefore have to be put in place to ensure that the best and appropriate methods of instructions are selected in MET institutions.

In the next section, the study assesses responses on the impacts of maritime education and training that seafarers receive in their lines of work. This section looks at how effective seafarers are able to apply what is learnt and how they are able to compete with seafarers from other countries.

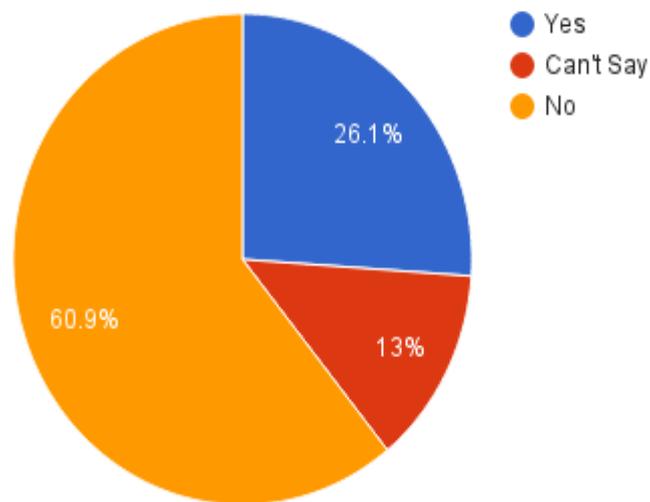
### **4.3 Impact of Training Seafarers Receive in Their Line of Work**

As mentioned above, the STCW as amended only provides the minimum requirements for seafarer education and training. MET institutions as well as maritime administrations therefore need to ensure that seafarers receive the best training in order to discharge their duties with competence. Responses from participants as indicated above reported that the curricula at the MET institutions are made up of theory work, practical training, and simulation. A Greater number of seafarer (91.3%, see figure 3 for details) participants from both Ghana and South African suggested that it is very difficult for cadets from their respective countries to find jobs, due partly to competition in the labour market. In South Africa, these responses confirm the findings by SAMSA (2011) in this regard.

While a greater number of seafarer participants reported that they are able to work well on board vessels just as other seafarers from Africa, only few of the seafarers responded that they are able to compete very well with their counterparts from other continents. This may be explained that, in spite of the disintegrated nature of seafarer training in Africa, the challenges of MET are somewhat generic. Many of the respondents however acknowledge that their inability to compete does not cut across seafarers in the globe. They responded that though seafarers in some European and North American countries may be seen to be more advanced and competent in their lines work that they are, they are also able to compete with seafarers from some Asian countries, as there are similar educational systems. The

Google docs form survey questions were general in nature and did not enable African seafarers to compare themselves with European seafarers and Asian seafarers separately. This is likely likely to be reason for majority (60.9%) of the seafarers' saying 'yes' to the question 'are you able to compete on the same level with seafarers from other African countries?' (see figure 2).

**Count of 13. Are you able to compete on the same level with seafarers from other continents?**



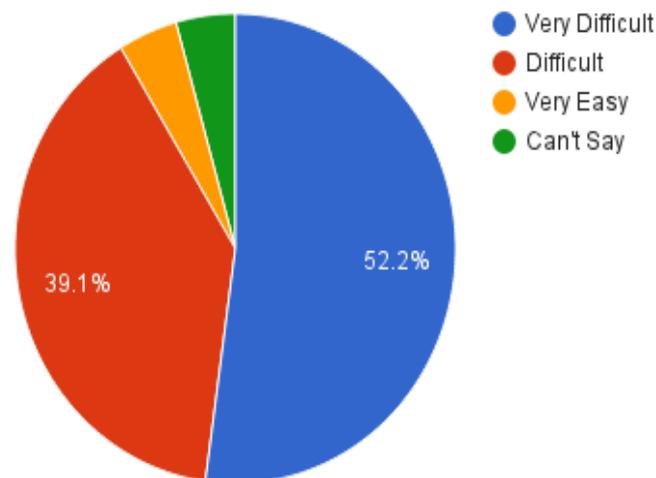
Source: Google Docs survey, 2015

Figure 2: Seafarers responses on impact of training and education on their work

Applying what is learnt in MET institutions is mostly a challenge, since they receive less practical exposure. A seafarer in South Africa in explaining this difficulty stated that, *“When I started working as a professional seafarer, it took me some time before I realized that some of the things I had learnt in school was what I was actually doing”*. A seafarer in Ghana also stated that, *“When I was a cadet, I never boarded a moving vessel; all that we did was taught how to draw vessels and with occasional*

visits to the Tema port. This actually created a lot of problems as I found it hard applying my knowledge on something I have never tried my hands on”. Many of the seafarers therefore stated that it took them a very long time to adjust to some of the technologies used on board vessels. Responses from the MET lecturers and maritime administrators of the two countries in interviews confirm what the seafarers expressed, and the problem of ineffective application of learned knowledge was also attributed to little practical experiences of seafarers. Bonnin, Ruggunan and Wood (2006) found out that “without access to training berths, potential seafarers are not able to utilise their academic qualifications in the job market.” The response from the Google Doc forms convincingly reveals that it is very difficult for newly trained cadets from they two countries to get employment. A cumulative total of 91.3 % of seafarers either said it is “very difficult” or “difficult” for newly trained cadets to get employment (refer to figure 3).

**Count of 11. How difficult is it for newly trained cadets from you country to get employment?**



Source: Google Docs survey, 2015

Figure 3: Newly training cadets chances of getting jobs

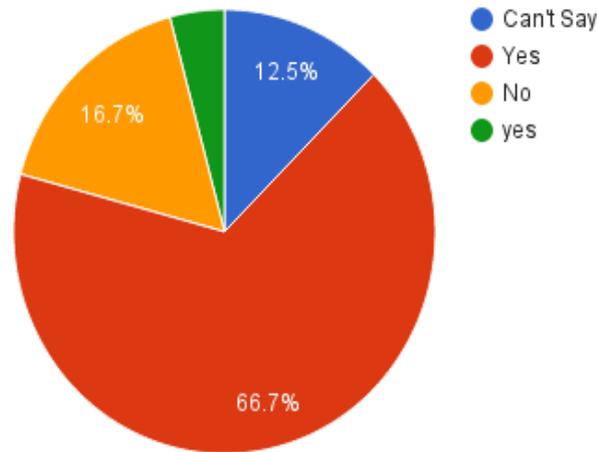
The ineffectiveness in application of learned knowledge and the inability of seafarers in the two countries to compete with some of their colleagues from other countries can be attributed to the problems as discussed in the next section. The next section therefore focuses on the problems hindering the attainment of quality education and training of seafarers.

#### **4.4 Problems Hindering the Attainment of Quality Education and Training of Seafarers**

The third sub-objective of the study was to identify the problems hindering the attainment of quality education and training of seafarers in South Africa and Ghana. Competent workforce is required if IMO's primary purpose of ensuring maritime safety, efficiency of navigation, and prevention and control of marine pollution from ships is to be achieved. The 2010 amendment to the STCW Convention and Code was adopted "Recognizing the importance of establishing detailed mandatory standards of competence and other mandatory provisions necessary to ensure that all seafarers shall be properly educated and trained, adequately experienced, skilled and competent to perform their duties in a manner which provides for the safety of life, property and security at sea and the protection of the marine environment" (International Maritime Organization, 2010). Understanding the challenges is necessary in making recommendations for improving quality of training and education of seafarers in the study countries.

Reviews of literature on challenges of maritime education and training revealed that varied reasons have been advanced for the low quality in seafarer training. To help identify the problems in the cases of South Africa and Ghana, the participants were asked to list and explain the challenges hindering quality training and education of seafarers in MET institution in their countries. The responses were similar and complementary across Seafarers, maritime Administrators, and MET Lecturers.

**Count of 15. Do you experience any problems that hinder the attainment of quality training and education of seafarers?**



Source: Google Docs survey, 2015

Figure 4: Seafarers responses on problems that hinder quality training and education

Responses from seafarers recorded in Google Docs forms revealed that majority (66.7%) of seafarers revealed that there are problems that hinder quality training and education in Ghana and South Africa (see figure 4). Responses from the seafarers from Ghana revealed that lack of qualified lecturers due to low remuneration, poorly trained lecturers, and lack of funding for Regional Maritime University (RMU) were the major problems. Lack of a national shipping line for cadets' practical training is another major issue hindering quality training and education of seafarers in Ghana. Seafarers from South Africa also listed challenges such as inadequate accommodation, financing, lack of training vessel for training of cadets and modernization of equipment. They suggested that some Lecturers are not qualified seafarers themselves and do not understand onboard procedures and cannot properly instruct students to apply those procedures. Training berths for training cadets and poor simulator training were other problems according to the seafarers from South Africa. To those seafarers who are not from English speaking countries, language

problems affect the quality of education and training. Finally, the responses of South African seafarers indicated that institutions of higher education do not streamline their curricula.

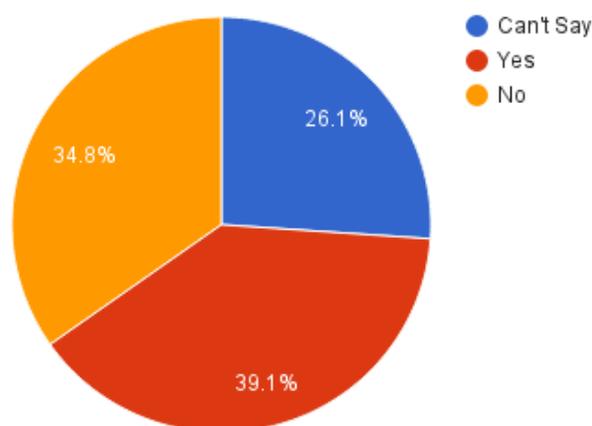
A Face to face interview with a participant from Ghana revealed to a large extent that lack of training berth for cadets in Ghana greatly affects the quality of training and education of seafarers. The participant said the South African ship, Agulhas, was used as training vessel for African nations but this has not been successful. The respondent said that during his time in office at the RMU he made formal arrangements with Singaporean shipping lines to absorb cadets trained in Ghana. However, the shipping lines were often reluctant to take cadets from Ghana because the additional cost of flying cadets to join the ship are considered losses since the cadets are not assets to the shipping companies. To add to this, there is competition with the Asian countries such as Philippines and India where cost of flying seafarers was relatively lower.

In Ghana some lecturers also believe that lack of funding for RMU has added to the poor quality of training and education. South African Lecturers interviewed in the study were of the view that there is a general perception among the international community that maritime training in Africa is "sub-standard" and this blinds them from acknowledging the quality in African seafarers. They believe that lack of government involvement and coordination, no clearly stated strategy, and lack of industry involvement are responsible for poor quality training and education of seafarers. The Lecturers interviewed in South Africa also believe that inadequate funding, lack of trained, qualified and competent instructors are partly responsible for the poor output. These responses from both Ghana and South Africa, indicates that the problems in African maritime education and training are similar.

Finally, responses from participants drawn from the two maritime administrations confirmed these challenges listed by the seafarers and lecturers. From Ghana, the administrators believed that lack of a well equipped maritime training institution (RMU), lack of a national shipping line, and low levels of financing for the maritime industry contributes to poor quality training of seafarers in Ghana. On the part of South Africa, administrators believe that shortages in training berths for obtaining Sea time, aged instructors, and inability to attract former seafarers with experience to join the training institutions compromises the quality of education and training.

Seafarer responses from the Google form survey revealed that some seafarers (34.8%) believe these problems are not particular to African countries. Under the impact of training seafarers receive on their line of work seafarers' responses suggested that African seafarers believe they are able to compete on the same level with Asian seafarers. In-depth interview with a participant from Ghana under the lecturers revealed that the training systems and challenges in Africa are similar to those in Asian countries. It is therefore not surprising to have these mixed responses on whether the problems are peculiar to African countries.

**Count of 16. Are these problems peculiar to only African countries?**



Source: Google Docs survey, 2015

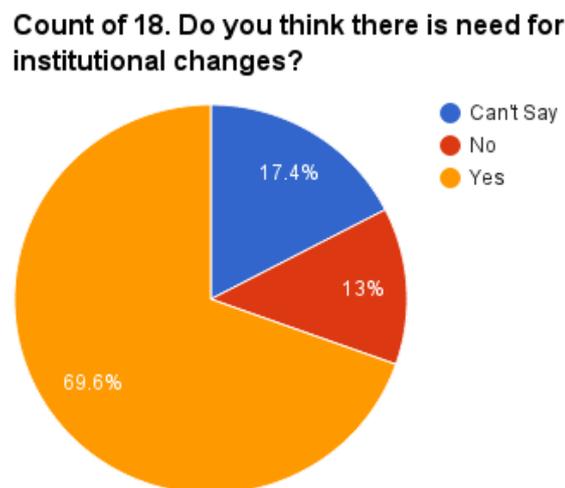
Figure 5: Are challenges to effective training peculiar to African countries?

In the following section, suggestions are discussed on how to tackle the problems and how maritime training and education can be enhanced as well as how institutions can coordinate.

#### 4.5 Enhancing Maritime Education and Training in South Africa and Ghana

In the previous section, the study investigated the problems hindering the attainment of quality education and training of seafarers. The study went further to ask seafarers how maritime education and training in Africa could be enhanced; the responses from both Ghana and South Africa were similar.

To start with, the responses from the Google Docs forms revealed that a majority (69.6%) of the seafarers believe that there is the need for institutional changes in Africa (see figure 6).



Source: Google Docs survey, 2015

Figure 6: seafarer responses on the need for institutional changes in Africa

This statistics suggest that seafarers believe institutional changes in MET would improve the quality of education they receive and this could in turn help solve some of the problems the list in the preceding section.

The responses from the seafarers from Ghana revealed that building more training institutions, acquiring vessels to be used for practical training of cadets, and ensuring that lecturers are experience, could enhance maritime training. A seafarer from Ghana said *“quality and experienced lecturers / instructors, effective hand-on approach to teaching and learning, continuous upgrading of teaching skills for lecturers and instructors, and provision of subsidies on fees for students”* could enhanced maritime training in the country. In the words of another seafarer from Ghana, he said that:

*“by assisting Ghana with only vessels for training of cadets, I believe maritime education and training would be enhanced a lot because, I graduated from the Regional maritime university in 1989 as a marine radio officer and with only 6 months as a "Trainee Radio Officer", I was employed and sailed as radio & electronic officer for 10 years. I strongly believe, that if the maritime university in Ghana is assisted with training vessels or programs, Every cadet would be trained to adequately to compete with anyone seafarer anywhere.”*

On the part of South African seafarers, they claimed that by reforming legislation that support the industry, having the political will, and providing more practical training on vessels for cadets would greatly enhance maritime training in South Africa. In the words of two seafarers from south Africa, the said that *“many industries have embraced technology, African training institutions need to enhance technology and work together to the African standard”* and *“I feel that our training is enough, training must be provided most on board a ship where practical application is more practical.”* A seafarer from South African also noted that if seafarers write the same exams world wide, they would receive the same level skills.

The seafarers from both countries also added that proper policy formulation, making maritime training integral part of discussion and planning at AU and regional level, formulating strategy for implementation, and building public-private partnership in developing MET would help provide quality maritime training for seafarers. Again the responses from the two countries suggest that the problems and challenges in attaining quality maritime training and education could be similar in most African nations. This conclusion however needs to be further investigated since Africa has many maritime nations. Research on the Implementation of Maritime Education and Training (MET): An exploration of Human and Technological Resources Challenges Facing MET in Kenya by Nthia Josephine Mabuti revealed that there is a shortage in qualified instructors in Kenya. According to (Mabuti, 2013), her analysis “acknowledges the need to acquire appropriately qualified instructors for Kenyan MET institutions.” This finding is in line with the conclusions made from seafarers from Ghana and South Africa on the problem inexperienced lecturers at MET institutions.

Another major conclusion from the seafarers’ views is that there is the need for coordination and cooperation among MET institutions across Africa. The interview with a lecturer revealed that several attempts at collaborating between South Africa and Ghana in area of maritime education has been made. Seafarers from South Africa believe that institutions cooperation with the country and internationally would improve quality training. In Ghana, the only maritime institution is the RMU, therefore students were of the view that efforts should be made to introduce more MET institutions in the country and collaborations should be established with international institutions and shipping lines to aid maritime training and education. This conclusion also confirms (Mabuti, 2013, p.76) findings that:

*“Another option that could be considered to develop human resources in Kenya is cooperation and collaboration among MET institutions in Kenya to share human resources especially in the specialized courses to reap mutual*

*benefits. Cooperative alliances in the maritime sector have been embraced in the EU, which has realized the launch and development of various educational research projects.”*

Mabuti (2013,p.75) findings revealed that “sufficient numbers of MET teachers particularly in China and the European Union. Mabuti therefore suggested based on these evidence that it is a possibility for Kenyan institutions to seek “cooperative alliances with the institutions having sufficient instructors to build and enhance the human resource capacity and uphold the requirements of STCW Convention 78, as amended.”

## CHAPTER 5

### 5.0 CONCLUSION

#### 5.1 Introduction

As outlined in the early part of the study, the main objective is to assess the quality of maritime education and training from the perspectives of seafarers in Africa, with specific reference to South Africa and Ghana. This final section is the concluding part of the study. A summary of the findings of the study is presented in this section. Also, this section provides recommendations to the main challenges confronting quality of seafarer education and training in Africa, as identified in the study.

#### 5.2 Summary of Findings

The findings are summaries following. A Summary matrix of the conclusions from the comparative analysis is showed on Table 3.

Table 3: Summary matrix of conclusions from comparative analysis

Objective	Findings	Responses from Ghana	Responses from South Africa
<p><b>Sub-objective 1:</b> To assess the quality of maritime education and training from the perspectives of seafarers in Africa</p>	<p>Instruction in MET institutions in both Ghana and South Africa are theory, practical training, and simulation. Others include industrial visits, evaluation exercises, and group tasks.</p> <p>Overall, mixed responses, but to a large extent methods of instructions do not</p>	<p>No ship base simulation.</p>	<p>There is some form of ship bases simulations.</p>

	completely meet the provisions as set out in the STCW Convention as amended.		
<b>Sub-objective 2:</b> The study intended to understand the impacts and effectiveness of maritime education and training on seafarers' line of duties on onboard vessel	It is very difficult for cadets from their respective countries to find jobs.  With such training they are unable to compete with their counterparts in Europe and North America but able to do so with seafarers from Asia.	Lack of practical exposure  Difficult for newly trained cadet to find jobs  Able to compete with seafarers from Asia	Lack of practical exposure  Difficult for newly trained cadet to find jobs  Able to compete with seafarers from Asia
<b>Sub-objective 3:</b> The study sought opinions on the problems hindering the attainment of quality training and education of seafarers	Challenges hindering the attainment of quality education and training in Africa included: lack of qualified maritime lecturers, inadequate financing of MET institutions, lack of training berths for seafarers, poor simulation based training, and lack of training vessels and modern equipment.	There are problems in attaining quality of maritime training  Problems are not peculiar to Africa  Problems include: lack of shipping line for practical training, inexperienced lecturers, and lack of funding for MET institutions.	There are problem in attaining quality of maritime training  Problems are not peculiar to Africa  Problems include: lack of vessels for practical training, inadequate accommodation for cadet, lack of funds for MET institutions, and inexperience lecturers.
<b>Sub-objective 4:</b> Ways of enhancing maritime education and training in South Africa and Ghana as	Seafarers from both countries believe there is the need for institutional	Building more training institutions, acquiring vessels to be used for practical training of cadets,	Reforming legislation that support the industry, having the political will, and providing

<p>well as how MET institutions can effectively coordinate to deliver quality training and education to seafarers</p>	<p>changes and reforms in legislation on maritime training. Institutional and regional cooperation is necessary for quality training. Previous research indicates that such collaboration could be extended to EU and China.</p>	<p>and ensuring that lecturers are experience, employ experience lecturers, provision of subsidies on fees for students.</p> <p>There is need for institutional and regional integration.</p>	<p>more practical training on vessels for cadets.</p> <p>There is need for institutional and regional integration.</p>
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As mentioned above, Africa as a whole needs to make good use of its maritime potentials in order to propel its economic development. Again, as stated above, one such way of developing its maritime potentials is to ensure a competent work force in the maritime industry. It is not just establishing maritime education and training institutions, but most importantly, ensuring that these institutions are able to maintain a high level of quality standards to equip students with the requisite skills and to enable them meet international standards in carrying out their duties.

The study intended to assess the quality of maritime education and training from the perspectives of seafarers in Africa, with specific reference to South Africa and Ghana. In line with this objective the study specifically sought participants opinions on the methods of instructions are employed in MET institutions and how satisfactory these are to seafarers training and education. It was revealed that the major methods of instruction in MET institutions in both Ghana and South Africa are theory, practical training, and shipboard simulation. Most of the participants interviewed were of the view that MET training was more of theory than practical and simulation. It was also found that, whilst seafarers in South Africa responded that they had some form of ship bases simulations in the course of their training, their

counterparts in Ghana responded in the negative. This was attributed to the lack of training vessel in the only maritime institution in Ghana, Regional Maritime University, as well as the non-existence of a national shipping line.

Secondly, the study intended to understand the impacts and effectiveness of maritime education and training on seafarers' line of duties on onboard vessel. The findings on the impacts of seafarer training showed mixed responses. While many of the participants were of the view that the training they receive makes them unable to compete with their counterparts in Europe and North America, they were however of the view that they are able to compete on a level field with seafarers trained in other African countries and in some countries in Asia. The main challenge in applying what is learnt in MET institutions by seafarers in the two countries in their lines of work was found largely to be lack of practical exposure.

Thirdly, the study sought opinions on the problems hindering the attainment of quality training and education of seafarers. The study found out that the some of challenges hindering the attainment of quality education and training in Africa included: lack of qualified/poorly trained maritime lecturers, inadequate financing of MET institutions, lack of training berths for seafarers, poor simulation based training, lack of training vessels and modern equipment, and ineffective streamlining of academic curricula.

Finally, the study intended to find out ways of enhancing maritime education and training in South Africa and Ghana as well as how MET institutions can effectively coordinate to deliver quality training and education to seafarers. The study revealed that seafarers believe there is the need for institutional changes and reforms in legislation on maritime training. The study also revealed that cooperation is necessary for quality training. Previous research indicates that such collaboration could be extended to EU and China especially in the area of qualified MET instructors.

### **5.3 Recommendation**

Judging from the above discussions establishing a higher standard of quality in MET in Africa is necessary for the development of the continent's maritime potential. Viable options for addressing problems in attaining quality education and training must therefore be put forward.

To begin, one major issue stressed by the African Charter on Maritime Transport Development is the role of institutional collaboration in MET in the continent. Responses from participants in the study sought to confirm the importance of this institutional collaboration in maritime development. Participants, especially those interviewed in Ghana used the RMU as an example. As stated above, the university was formed by the five member states in the West and Central African Region, and it has since been providing regional training and certification. This ensures some sort of uniformity and higher credibility in seafarer qualifications, enhancing employment opportunities and competence. Maritime institutional collaboration is also important, considering the assessment by the study above that maritime development challenges are similar in Africa.

Secondly, as gathered from the study, MET can be enhanced by progressively investing in maritime training and education infrastructure and this includes the provision of modern technology and training vessels.

Also, MET curricula has to be streamlined to ensure that methods of instruction are effective to equip students to meet the demands of the international seafarer market. In this case, measures have to be put in place to ensure adequate theoretical, practical and simulation based training is provided to students.

There should also be an effective national strategy for seafarer training and professional development. Most African countries often design broad based educational strategies that are supposed to represent the entire educational

development of the countries. These one-fit-all strategies do not provide the effective development of education in a specialized field like the maritime industry. Designing an effective national MET strategy will therefore on a regular basis help to identify the priority areas for development.

## REFERENCES

- A. G. Cerit, Y. Zobra, D. A. Deveci and O. Tuna. (2004). Problem based learning in maritime education: How to design curriculums. *Research Gate*. Available at: <http://www.researchgate.net/publication/228540948>
- Accra Expat (2015). General information about Ghana. Retrieved from: <http://www.accraexpat.com/pdfs/Ghana%20-%20A%20country%20profile.pdf>. Date: 21th September 2015
- Assessment Capacities Project (2012). Qualitative and quantitative research techniques for humanitarian needs assessment: An introductory brief. Retrieved from: <http://reliefweb.int/report/world/qualitative-and-quantitative-research->
- Babylon, A.M. & Santos, V.E.M.R. (2011). The Challenges in Philippine Maritime Education and Training. *International Journal of Innovative Interdisciplinary Research*, Issue1.
- Baker, M.L. (2011). Toward an African Maritime Economy. Empowering the African Union to Revolutionize the African Maritime Sector. *Naval War College Review*, Vol. 64, No. 2.

- Bonnin, D & Wood, G. (2002). *Seafarer training and the availability of training berths: the case of the South African shipping industry*. Report for Transport, Education and Training Authority, South Africa.
- Bonnin, D., Lane, T., Ruggunan, S., & Wood, G. (2004). Training and development in the maritime industry: the case of South Africa. *Human Resource Development International, Vol.7, No. 1*. 7-22
- Bonnin, D., Ruggunan, S., & Wood, G. (2006). Unions, Trading and Development: A Case Study of African Seafarers and the International Transport Workers Federation (ITF). *South African Journal of Labour Relations, Vol.30, No.1*.76-90.
- Corovic, B. (2013). Supply and Demand Analysis of educated seafarers. *Annals of the Oradea University, Fascicle of management and Technological Engineering, Issue No. 2*.
- DeLucia, P. R.,(2011). Reviews of Human Factors and Ergonomics, Volume 7. Retrieved from the SAGE website: <http://rev.sagepub.com/content/7/1/280.full.pdf+html>. Retrieved from 03 January 2015.
- Drew, C. J., Hardman, M. L., & Hosp, J. L. (2008). Designing and Conducting Research in Education. Retrieve from SAGE publications: <http://srmo.sagepub.com/view/designing-and-conducting-research-in-education/SAGE.xml>. Date 18th September 2015
- Dunn, D. S. (2013). The practical researcher: a student guide to conducting psychological research, 3rd Edition. Retrieved from: <http://www.wiley.com/college/spata/samplechapters/ch04.pdf>. Date 18th September 2015
- Emad, G., & Oxford, I. (2008). Rethinking Maritime Education and Training, In Proceedings of the 16th International Maritime Lecturers' Association Conference (pp. 91-98), Izmir, Turkey

European Association for Quality Assurance (2014). The concept of excellence in higher education. Retrieved from: [http://www.enqa.eu/indirme/papers-and-reports/occasional-papers/ENQA%20Excellence%20WG%20Report\\_The%20Concept%20of%20Excellence%20in%20Higher%20Education.pdf](http://www.enqa.eu/indirme/papers-and-reports/occasional-papers/ENQA%20Excellence%20WG%20Report_The%20Concept%20of%20Excellence%20in%20Higher%20Education.pdf). Date: 20<sup>th</sup> September 2015

European Commission (2003). Evaluation of the Danish national research foundation centres of excellence. Retrieved from: <http://www.dg.dk/filer/Publikationer/Evaluering%20af%20DG's%20centre%202003.pdf>. Date: 18<sup>th</sup> September 2015

European Commission (2010). European textbook on ethics in research. Retrieved from: [https://ec.europa.eu/research/science-society/document\\_library/pdf\\_06/textbook-on-ethics-report\\_en.pdf](https://ec.europa.eu/research/science-society/document_library/pdf_06/textbook-on-ethics-report_en.pdf). Date; 18<sup>th</sup> September 2015.

Froholdt, L.L and Kragesand Hansen, E (2012) Challenge and Opportunities in Maritime Education and Competence development- a comparative analysis of lesson learnt. Accepted conference paper at The International Association for Maritime Universities, IAMU AGA 13, New Foundland, Canada, October 2012.

Froholdt, L. L. & Hansen, F. K. (2010). Maritime transport: education and competence development in a maritime EU. Press4transport. [http://www.press4transport.eu/vpo/thematic\\_fiches.php](http://www.press4transport.eu/vpo/thematic_fiches.php)

Ghana Maritime Authority. (2011). Annual Report of the Ghana Maritime Authority, Accra.

Hellström, T. (2013). Programme on Innovation, Higher Education and Research for Development (IHERD). Retrieved from: [http://www.oecd.org/sti/Draft\\_OECD%20synthesis%20report\\_final.pdf](http://www.oecd.org/sti/Draft_OECD%20synthesis%20report_final.pdf). Date: 18<sup>th</sup> September 2015.

International Maritime Organization (2010). Conference of parties to the international convention on Standards of Training, Certification and Watchkeeping for Seafarers, 1978; agenda item 10. Retrieved from: <http://www.scribd.com/doc/55885979/stcw-code-2010#scribd>. Date: 13<sup>th</sup> September 2015

International Transport Workers' Federation, (2013). STWC a guide for seafarers: taking into account the 2010 Manila amendments. Retrieved from the ITF website: Retrieved on 04 January 2015 from [http://www.itfseafarers.org/files/publications/43294/SB2014\\_english\\_web.pdf](http://www.itfseafarers.org/files/publications/43294/SB2014_english_web.pdf)

Kennerley, A. (2002). Writing the History of Merchant Seafarer Education, Training and Welfare: Retrospect and Prospect. *The Northern Mariner, XII, No. 2*. 1-21

Li, K. X. & Wonham, J. (1999). A method for estimating world maritime employment'. *Transportation research Part E. Logistics and transportation review vol 35, issue 3, pages 183 – 189*. Retrieved from: [http://directory.umm.ac.id/Data%20Elmu/jurnal/T/Transportation%20Research\\_Logistics%20&%20Transportation%20Review/Vol35.Issue3.Sept1999/73.pdf](http://directory.umm.ac.id/Data%20Elmu/jurnal/T/Transportation%20Research_Logistics%20&%20Transportation%20Review/Vol35.Issue3.Sept1999/73.pdf). Date: 20th September 2015

Mabuti, N.J. (2013). Implementation of Maritime Education and Training (MET): An Exploration of Human and Technological Resources Challenges Facing MET in Kenya. *A Dissertation Submitted to the World Maritime University in Partial Fulfillment of the Requirements for the Award of the Degree of Master of Science in Maritime Affairs, Malmo, Sweden*.

Manuel, M. E. (2010). The Impact of the Hidden Curriculum on MET. Proceedings of the 18<sup>th</sup> Conference of International Maritime Lecturers' Association. Retrieved from: <http://www.imla.co/sites/default/files/ProceedingsIMLA18.pdf>. Date: 6th September 2015

- Manuel, ME. (2011). Potential Sociological impacts of unfair treatment of seafarers. *Maritime Policy and Management*, Vol.38, No. 1. 39-49 Routeledge.
- Muirhead, P. (2000). Making STCW 95 work – the need for global cooperation in Baltic and International Maritime Council, BIMCO review 2000 (pp.85-91). London: Author.
- National Contact Point (2015). Centre of Excellence. Retrieved from: [http://en.kpk.gov.pl/index.php?option=com\\_content&view=article&id=110&Itemid=100&lang=en](http://en.kpk.gov.pl/index.php?option=com_content&view=article&id=110&Itemid=100&lang=en). Date: 18<sup>th</sup> September 2015
- Okore, E.O. (1999). *Maritime Education and Training in Nigeria: Current Problems in the Light of New and Changing Technology and International Legislation. . A Dissertation Submitted to the World Maritime University in Partial Fulfillment of the Requirements for the Award of the Degree of Master of Science in Maritime Education and Training, Malmo, Sweden.*
- SAMSA. (2011). *Maritime Sector Skills Development Study. Department of Transport.*
- South Africa Government (2015). Geography and climate. Retrieved from: <http://www.southafrica.info/about/geography/>. Date: 21<sup>th</sup> September 2015
- The Brenthurst Foundation. (2010). *Maritime Development in Africa: An Independent Specialists’ Framework. Strengthening Africa’s Economic Performance. Brenthurst Discussion Paper.*
- United Nations Conference on Trade and Development, (2014). Review of maritime transport 2014. Retrieved from the United Nations Conference on Trade and Development’s website: <http://unctad.org/en/pages/PublicationWebflyer.aspx?publicationid=1068>. Retrieved on 06 January 2015.

Wei, R. (2013). Views from the Maritime Education and Training on the full implementation of the 2010 STCW Amendments. *Journal of Shipping and Ocean Engineering*, 3. 40-46.

World Health Organization (2013). Ethical issues in patient safety research: interpreting existing guidance. Retrieved from:[http://apps.who.int/iris/bitstream/10665/85371/1/9789241505475\\_eng.pdf](http://apps.who.int/iris/bitstream/10665/85371/1/9789241505475_eng.pdf). Date: 18th September 2015

Ziarati, M., Ziarati, R., and Acar, U., (2012). Harmonizing maritime education and training at sea and ashore. Retrieved from the Unification of Marine Training and Education website: [http://www.unimet.pro/Publications/Papers/Harmonising\\_Maritime\\_Education\\_and\\_Training\\_at\\_Sea\\_and\\_Ashore.pdf](http://www.unimet.pro/Publications/Papers/Harmonising_Maritime_Education_and_Training_at_Sea_and_Ashore.pdf). Retrieved on 07 January 2015.

**APPENDIX A**  
**TO COMPARATIVE ANALYSIS...**  
**DD SEP 15**

**COMPARATIVE ANALYSIS OF QUALITY OF TRAINING AND EDUCATION OF SEAFARERS IN SOUTH AFRICA AND GHANA**

My name is Henry Maringa. I am a Msc student at the World Maritime University in Malmö, Sweden. My dissertation is comparative analysis of quality of training and education of seafarers in South Africa and Ghana.

I am hereby inviting you to participate in this survey as I believe that the data collected from this survey will provide useful information in the process of determining the quality of education and training.

This survey is composed of 11 main questions and shall take between 15 to 30 minutes. Participation is strictly voluntary and I have confidence that findings will add significant value to the education and training. Names of individual will be treated with anonymity.

Statement of consent

I have read the above information and have agreed to participate in this study. I have agreed for the interview to be audio-recorded.

I consent to my personal data, as outlined in the accompanying information sheet, being used for this study and other research. I understand that all personal data relating to volunteers is held and processed in the strictest confidence.

Participant's Name:

.....

Your Signature: .....Date: ...../...../2015

**APPENDIX B**  
**TO COMPARATIVE ANALYSIS...**  
**DD SEP 15**

**RESEARCH QUESTIONS FOR SEAFARERS**

1. What is your background?
2. Which institutions did you attend?
3. What methods of instructions are employed in Maritime Education and Training (MET) institutions that you attended? (Indicate whether the methods are satisfactory)
4. Did the curriculum involve theory work and practical training and simulation? Could you list some of the topics you learnt?
5. How appropriate and relevant is simulation to learning?
6. In your opinion, has the MET you attended given adequate share of time for theory and practical teaching in its curriculum?
7. What external examiners were involved during the training or examination?
8. Do the training requirements meet the standards set by the STCW Convention?
9. Does your employer/company appreciate the training that you have received?
10. How difficult is it for newly trained cadets from your country to get employment?
11. Are you able to compete on the same level with seafarers from other African countries? (What about with seafarers from other continents?)
12. How significant has the theory training, practical, and simulation aided you in your work on vessels?

13. Do you experience any problems that hinder the attainment of quality training and education of seafarers? (Are these peculiar to African countries or other regions?).

14. How can maritime education and training in Africa be enhanced?

15. Do you think it is necessary for institutional changes? (Is current policy framework adequate).

16. Do you have anything to add? Anything that has crossed your mind during these questions that you would like to add.

## **APPENDIX C**

### **TO COMPARATIVE ANALYSIS...**

**DD SEP 15**

## **RESEARCH QUESTIONS FOR KEY INFORMANTS**

### **MET LECTURERS**

1. What is your background?
2. What are the methods of instruction in your Maritime Education and Training (MET) institution?
3. Is there external examination on the methods of delivery? By what organization?
4. What are the standards required for methods of training seafarers?
5. How is the curriculum designed? How is it reviewed?
6. Are the requirements of the IMO for training and certification of seafarers by the STCW convention followed?
7. Do you think seafarers are able to do their work well with the training they received from your institution?
8. Are newly trained cadets from your institution able to compete at the regional and global level with other seafarers at the same level?
9. Which countries and MET institutions are major destinations for seafarer training in Africa?
10. What are the challenges hindering quality training and education of seafarers in your country MET institution?

11. What are the challenges African countries face in training seafarers?
12. How can training be enhanced in your MET institution?
13. Do you think African countries and MET institutions can collaborate in training seafarers? How can that be done?
14. Do you have anything to add? Anything that has crossed your mind during these questions that you would like to add?

**APPENDIX D**  
**TO COMPARATIVE ANALYSIS...**  
**DD SEP 15**

**RESEARCH QUESTIONS FOR KEY INFORMANTS**

**MARITIME ADMINISTRATION**

1. What is your background?
2. What are the methods of training employed by (Maritime Education and Training (MET) institutions under your Administration? (Indicate whether these methods are adequate
3. What are some of the requirements on the training methods?
4. Do you think seafarers certified by your organisation are able to compete on a global level?
5. Do certified seafarers from your Administration easily find jobs?
6. What are the major employers of seafarers certified by your Administration?
7. Do you know other countries in Africa with robust Maritime Administrations authorities and good MET institutions that can compete with you? List them.
8. What are the challenges hindering quality training of seafarers in your Administration?
9. If so, what is your Administration/Government doing to resolve these challenges?
10. Do you think it is possible that African countries could collaborate in training and certification of seafarers? Why? Or Why not?

11. Do you have anything to add? Anything that has crossed your mind during these questions that you would like to add.