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## Quasi-military training experience, academic performance and shipboard training competence: The PMMA success indicators of maritime education and training

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**WORLD MARITIME UNIVERSITY  
Malmö, Sweden**

**QUASI-MILITARY TRAINING EXPERIENCE,  
ACADEMIC PERFORMANCE AND SHIPBOARD  
TRAINING COMPETENCE: THE PMMA  
SUCCESS INDICATORS OF  
MARITIME EDUCATION AND TRAINING**

By

**MANNY ISLA CHING**  
Philippines

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)**

2017

## 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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*For how it's been in my existence I've searched and found things that I've learned fully and profound. Through these journeys echoes the memories of incredible people who stayed with me sometime... Therefore, I say that their stories became mine. Still, it's not mine alone. To them I owe the glory.*

M. I. C.

## Abstract

Title of Dissertation: **Quasi-Military Training Experience, Academic Performance and Shipboard Training Competence: The PMMA Success Indicators of Maritime Education and Training**

Degree: **MSc**

This dissertation revisits the Philippine Merchant Marine Academy's (PMMA) context of Maritime Education and Training (MET). The study utilized mixed methods of research and implemented the sequential approach in data gathering using the selected midshipmen/women of Class 2017, selected PMMA alumni, and officials as the source of data. The study found out that after 197 long years, the Academy's inclusion of quasi-military training in the MET curriculum is still commendable. The leadership and discipline program in a quasi-military training, when combined with excellent academic preparation and outstanding shipboard training program effortlessly produces highly qualified maritime officers.

The positive impacts of military training include physical stamina, mental focus, decision-making skills, ability to work even under pressure and emergencies, proper values, respect to others, good communication skills, discipline, time management, and obedience.

Likewise, the identified flaws of the midshipmen/women in relation to tanker ships and its operations attributed to the changes in the curriculum in the previous years, gap in the shipboard training program, and instructional weaknesses due to high turn-over rate.

The study recommends strengthening the curriculum or providing a specialized course on tanker ships and its operation. Strengthen the selection and hiring process of faculty members and must consider hiring committed, diligent, and efficient faculty. Similarly, the Academy may develop an effective and flexible mechanism that can address the issues and challenges of the evolving maritime curriculum to maintain the quality of MET. Lastly, the Academy should conduct a separate study, which will assess the effectiveness and applicability of the existing shipboard training program.

**KEYWORDS:** Maritime, military training, academic competence, shipboard training, Philippines

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### **List of Abbreviation**

1CL	First Class (4th Year Students)
OAS-ATRE	Office of the Assistant Superintendent in Academics, Training and Research
BSMarE	Bachelor of Science in Marine Engineering
BSMT	Bachelor of Science in Marine Transportation
CBT	Computer Based Training
CHED	Commission on Higher Education
CME	College of Marine Engineering
CMT	College of Marine Transportation
DMA	Department of Midshipman Affairs
DST	Department of Shipboard Training
DOLE	Department of Labor and Employment
GPA	Grade Point Average
IMO	International Maritime Organization
MARINA	Maritime Industry Authority
MET	Maritime Education and Training
MHEIs	Maritime Higher Educational Institutions
OIC	Officer-in-Charge
OOS	Office of the Superintendent
PMMA	Philippine Merchant Marine Academy
POEA	Philippine Overseas Employment Agency

## **1.0 INTRODUCTION**

### **1.1 Background of the Study**

#### **1.1.1 Milestone of Filipino Seafarers**

In 1986, the number of Filipino seafarers employed onboard European merchant ships was 2,900, by the end of 1987 that figure had grown exponentially to 17,057. This meant that the number of European-owned ships with a substantial Filipino crew component went from 200 to 1,130 in just 12 months. In 2000, Filipinos comprised 20% of the world's merchant navy crew (Leggate & McConville, 2002), in 2001 it rose to astounding 25% (Millar, 2012). More compelling was the way these changes seemed responsible for eviscerating traditional European labor markets for seafarers in the merchant navy. Ruggunan (2002) stated that the case of the Philippines, to put it mildly, was extraordinary. The dominance of the labor market happened in the span of a decade. This was an unprecedented move in merchant shipping history. While it is true that shipping has historically been multinational, it was the rapidity and sheer range of new labor sourcing countries combined with the scale at which new labor markets were being created and marginalized that made this trend historically unprecedented. South Africa also experienced a huge displacement of its seafarers by Filipino and other South East Asian seafarers. By 1980, all South African-owned merchant navy ships had a majority of a non-South African crewing component. (Ruggunan, 2008) estimates that at least 4,000 South African seafaring jobs of all skill levels were displaced by foreigners, mainly Filipinos. Proportionally, South Africa experienced losses similar to those of Britain and other Western European countries.

Seafarers represented 23% of all Overseas Filipino Workers (OFWs) deployed in 2009, but less than 4% of the entire stock estimate of 8.7 million Filipinos living and working outside the Philippines (McKay, 2010). These labor migrants, in turn, have played a pivotal role in supporting the struggling Philippine economy. Filipino seamen had been a major source of US dollar remittances to the Philippines. According to Magsaysay-Ho (2008), 28,000 Filipino seamen remitted US \$3 billion to the Philippines from Japan alone. The Trade Union Congress of the Philippines (TUCP) stated that the total financial remittances sent to the Philippines by overseas Filipino seamen were US \$2.501 billion during the first nine months of 2009 (US \$2.393 billion in 2008). Over \$ 17.3 billion – or about 12% of the country’s Gross Domestic Product – back to the Philippines in 2009 alone. In 2011, 21.58% of the \$20.12 billion total remittances (or \$4.34 billion) came from Filipino seamen (Millar, 2012). As Asian Development Bank recently noted, “Remittances have become the single most important source of foreign exchange to the economy and a significant source of income for recipient families” (McKay, 2010). As reported by TUCP Secretary General and former Senator Ernesto Herrera, the rise in remittances from sea-based migrant Filipino workers is due to increased enlistment by shipowners in Europe and Asia. Herrera said that a “growing number of European and Asian shipping firms are disbanding their multinational crew and replacing them with wholesale all-Filipino personnel that is younger and able”. He added that foreign employers find Filipino sailors quick learners and easier to train compared to other nationals. This may be due to their superior instruction in the country apart from their ability to understand English (Choudhury, 2010). Hardworking and competent, Filipino seamen are considered to be the best in the world.

Filipino seamen are often recruited to man tankers and sea vessels from countries including those from North America, South America, Europe and Asia such as Japan, the United States, Panama, Liberia, Cyprus, Bahamas, Jamaica, Greece, Malta, Singapore, Norway and the Republic of Germany.

Similarly, The POEA reported that the Philippines is the world's main supplier of seamen since 1987, making the Philippines the manning capital of the world. The Department of Labor and Employment also reported that around 229,000 Filipino seamen were onboard merchant shipping vessels around the world at any given time; the figure showed that the Filipino seamen are the "single biggest nationality bloc" in the shipping industry (Choudhury, 2010). Around [one-fourth] of the world's seafarers are Filipinos and the Philippines remains one of the top providers of seafarers abroad (Tubeza, 2011).

Filipino seafarers are now perceived by many as among the best in the world (Mamanglu, 2010). Graham Young, International Transport of Workers Federation head of maritime operations in London, said that the Filipino mariners are being looked up because of their professionalism and unparalleled commitment towards work.

Additionally, there are many advantages of hiring Filipino seafarers. The most important is their long experience at sea and outstanding record as seafarers. Filipino crew members have a good command of the English language, reliable and hardworking. They maintain a professional and industrious attitude. They are competitive to employ but do not compromise themselves on performance or attitude towards their duties and responsibilities. Filipino seafarers can be found onboard vessels of all classifications and registries and believed that they will continue to be an important factor in today's global shipping industry (Adamson [Phil.] Inc., n.d.).

Another study shows that there are fourteen reasons why most of the shipping companies prefer Filipino seafarers (Oldsailor, 2008). Filipinos are seafarers in nature, dedicated and disciplined, hardworking flexible, reliable and loyal, work for less salary, fluent in English, highly trainable and adapt to changing environment, have problem-solving capability, exemplify good attitude, follow and respect the

laws, patient and tolerant, have tendency to sacrifice their lives, and even women seafarers are equally competent. This supports why Filipino seafarers are the most sought-after seafarers in the global shipping industry. In fact, Filipinos are in-demand to man ships at sea – from luxury cruise ships to giant tankers and container ships.

Swift (n.d.) also associated the natural trait of Filipino seafarer with their professional traits onboard such competence, cost-efficiency, and proficiency in the English language. In addition, Filipino seafarers are hardworking, flexible/adaptable, disciplined/obedient/respectful, sociable/happy/caring, resilient/moral/family-focused, Western/outward-looking.

Moreover, Filipino are less exposed to accidents than their Danish counterparts in the same position onboard (Lamvik, 2002). According to a Norwegian shipping company's health statistics, out of a pool of about 1,500 Filipino seafarers, only five were repatriated over a period of nine months due to illnesses such as psychosis, anxiety, depression, and insomnia. Still, even with all these weaknesses taken into consideration, it is a remarkable and interesting fact that only 0.3% of the Filipino seamen suffered from severe mental illness.

Hansen, Laursen, Friedberg, and Kristensen (2008) also concludes that seafarers from South East Asia, mainly the Philippines, may have a genuine lower risk of occupational accidents in comparison with seafarers from Western and Eastern Europe.

Finally, Filipino seamen according to Knudsen (2005) were acknowledged to have bridge-building qualities. According to foreign principals, Filipino seafarers are most preferred and trusted to man the merchant vessels (Marino Bulletin, 2010). At the core of the Filipino maritime labor migration lays an admirable ability and willingness of Filipino seafarers to endure hardship or make sacrifices in the name of the family

which is connected to the long and strong tradition in the Philippine culture of making a sacrifice. One way to situate and to sum up the Filipino seafarer is to describe them as modernists with a lag (Lamvik, 2002).

### **1.1.2 Philippine Context of the Maritime Education and Training (MET): Foundation of Success**

Aside from the traits and characteristics, the Filipinos possess which make shipping and maritime industry seek Filipino seafarers, the demand of the Filipino seafarers can also be attributed to the quality of the preparation of the educational systems and training institutions provided by the Maritime Higher Educational Institutions (MHEIs) of the country.

There are around 280,000 students graduate from maritime schools every year. There are around more than 200,000 to 250,000 Filipinos employed as seamen worldwide, more than any other nationality (Choudhury, 2010). These graduates are produced from the public and private MHEIs. Accordingly, as of this date, accredited MHEIs, of which eighty-six passed the rigorous accreditation process ninety-nine (99) Maritime Authority Industry of the Commission on Higher Education (CHED). Thus, Mendoza, Espiritu and Devanadera (2004) strongly suggest that the Philippine maritime training and educational institutions are capable of producing an adequate number of graduates who could be motivated and trained further to become officers.

The Philippine Merchant Marine Academy (PMMA) serve as the model of MET in the Philippines. As the only government-owned institution specializing in MET, its mission is to educate and train midshipmen/women to become qualified and competent merchant marine officers for shipboard and shore-based positions in response to the global requirements of the expanding international maritime industry. Presently, the PMMA has about 28 shipping and manning partners and benefactors where the cadets/cadettes carryout their shipboard training. This



partnership with international shipping companies gave an opportunity to the efficient provisions of practical training among PMMA cadets/cadettes.

Moreover, the PMMA supplies highly qualified and high-caliber pool of maritime faculty throughout the country. Because of the presence of PMMA graduate in almost every MHEIs within the country, MHEIs enjoys the PMMA way of MET delivery.

Furthermore, the realization of this endeavor and the continued high demand of Filipino seafarers reflects the persistent and continuous collaboration and improvement of MHEIs support agencies of the country. The collaboration of the Commission on Higher Education (CHED) and Maritime Industry Authority (MARINA) together with the MHEIs community, the Philippines maintain its status as the main supplier of highly qualified maritime personnel.

### **1.1.3 The Integration of Military Training in Maritime Education and Training**

Understanding military pedagogy differs from one country to another because education and social philosophies are different. Ree (2002) reiterates that military pedagogy strongly reflects national and cultural practices that determine the thoughts and values of the society. This pedagogy includes the willingness of a person to cooperate during the military training and education, to train to survive and work under extreme conditions, to be able to carry out duties accordingly and efficiently and to consider task as armed forces undertakings. In a military setting, instructors are not only educational instructors but also tactical commanders. Also, the principles used for teaching and learning are valid at all levels and situations (Schunk & Nielsson, 2007).

Falk (2008) coined military pedagogy into two components. One, the teaching and learning happen in a military setting, and second, military pedagogy applies to

situations where the teaching and learning are for military purposes. Moreover, Juhary (2015) defined military pedagogy as a concept used to educate and create future intellectual leaders of characters both for academic and military use. Schifferle (2010) argued that this pedagogy becomes the factor in education and training of soldiers that made U.S. Army victorious. Hartman (2012) also believes that the formation of personality, the efficiency of pedagogy, and the political and social development of society defend the nations. Thus, Florian (2002) further argued that military pedagogy will exist as long as there are military institutions in the world and the personnel is expected to accomplish their task efficiently.

There are only a few military academy or military tertiary institutions in the world. These include the United States Military Academy at West Point, the United States Naval Academy, the Royal Military Academy in the United Kingdom, the Special Military School in France, and the PLA National Defense University in China (Juhary, 2015). Military personnel seeks a higher education to advance rank. Similarly, nonmilitary personnel attends college for the same reasons.

For instance, the military friendly college of Western Kentucky University understands that military students are transitioning from the professional military environment to the workforce. Academic works is part of the transition. Thus, this college provides services with the culture of supports that builds on the skills of veterans brought in to the academic setting (Wilson, 2014).

Persyn and Poison (2012) suggest that with the desire to educate the service members for higher order thinking skills, the focus of the professional military education is to improve critical thinking skills and create organizational learning environments.

Military experience is an important turning point in a person's life and associated with important life outcomes. Jackson, Thoemmes, Jonkmann, Ludtke, and

Trautwein (2012) indicates that personality traits prospectively predicted the decision to enter the military. Similarly, military experience and training were associated with a change in the personality. Military trained personnel had a lower level of agreeableness, this change that persisted even five years after the training. Moreover, Jackson et al. (2008) suggest that military experiences may have a long-last influence on the individual characteristic.

In the study conducted in the United States, military students (especially from Navy and Marine Corps) outperformed their non-military counterpart in academic achievements as measured in the students' GPA and persistence rates (Akerere, 2011). The results corroborate with the findings of (Bradley & Nicol, 2006) on the normative commitment to military occupation and locus of control as significant predictors of the academic performance of the military students.

In addition, even experienced transitions and high demand of physical and mental training, military trained personnel was not associated with suicidal ideation, plan, or attempts. There was no significant report for major depression although they are more likely to report non-suicidal self-injury (Pease, Montein, Hostetter, Forster, & Bahraini, 2015).

Previous studies conducted supports these findings. For instance, Taylor, Markham, Reis, Padilla, Potterat, Drummond, Mujica-Parodi (2008) determines whether physical fitness influences the impact of stressful events during military training has found out that physical fitness may buffer stress symptoms secondary to extreme military stress and its effects may be mediated via fitness-related attenuations in trait anxiety.

Despite minimal literature available at hand, the maritime education and training (MET) sector believes that the experience of students in military setting has directly influences and contributes in the global seafaring industry. Thus, the International

Maritime Organization (IMO) through the Standards of Training, Certification, and Watchkeeping 2010 Manila Amendments issued and adopt important changes of new requirements for future seafarers. This program change includes the compliance for marine environment awareness training and training in leadership and teamwork. To achieve this, the inclusion of the competence leadership in the curricula is imperative. Teamwork-related issues such as leadership, team capabilities, common purpose, team norms, communication, conflict management, team operation and procedures, and member integration should be incorporated in the maritime education and training to support the long-term deployment of the seafarers. Additionally, to acquire the competence in leadership the program should observe and recognize the importance of soft skills, interpersonal relationship, good safety culture and other related competencies (Vervoort, 2012).

In relation to the context of pedagogy, the researcher strongly believes that this competence is effectively and appropriately fused in the military pedagogy. For instance, Magsino et. al. (2017) argued that discipline and training acquired from the quasi-military set up were very useful during the shipboard training of cadets. Accordingly, the physical training experienced by the cadets helped the trainees survive the day-to-day activities and training onboard. Also, the military training experiences are very significant in the actual training onboard which requires courage, commitment, perseverance, and tolerance. Finally, the cadets agreed that the military training significantly changed their attitudes towards anxiety and fear. Because the curriculum offers a variety of strategies, which develop their alertness, presence of mind, composure and calmness the cadets perform better during emergencies and extreme pressure.

Although there is a wide array of debate on the role of the military training and background on maritime careers, the maritime sector believes on the advantage of this competence in the seafaring profession. The skills and experience in the military are invaluable to personnel in the maritime and transportation industry. Evidently, military pedagogy can influence seafarer's competence, both in academic and

shipboard performance. With this in mind, the researcher believes that the conduct of this study is timely and relevant as part of the strategies to improve MET around the globe. Due to the limited literature, the researcher wanted to focus on the military pedagogy in relation to academic competence and shipboard training performance. The focus of the study is to determine the relationship between military training experiences, academic competence, and shipboard training performance of future seafarers. In this effect, the study may contribute and be beneficial to MET institutions, maritime training centers, maritime shipboard training programs and maritime industry as a whole.

## **1.2 Research Objective**

The main objective of the study is to describe and determine the academic performance, shipboard training performance, shipboard training competence, and the contribution of the quasi-military training to the 1CL midshipmen/women of Philippine Merchant Marine Academy (PMMA). This study also aims to determine the relationship between these variables and further focus on the implications of the findings on the PMMA context of Maritime Education and Training. The study deemed relevant in ensuring that PMMA will maintain its reservoir of superior maritime graduates.

## **1.3 Research Questions**

To better facilitate and determine the objective of the study, the researcher seeks answer to the following research questions.

1. What is the profile of the respondents in terms of:
  - 1.1 age;
  - 1.2 sex;
  - 1.3 course;
  - 1.4 type of ship (during shipboard); and

- 1.5 highest educational background (prior to PMMA entry)?
2. What is the academic performance of the respondents on the selected subject areas?
  3. How do the respondents perceive their performance during shipboard training program?
  4. What is the shipboard training competence of the respondents in terms of shipboard training program functions?
  5. How does the quasi-military training and experiences contribute to the life and maritime competency of the respondents?
  6. Is there a significant difference on the respondents' academic performance in selected subjects when grouped according to profile variable?
  7. Is there a significant difference in the respondents' perception on the contribution of quasi-military training when grouped according to profile?
  8. Is there a significant difference in the respondents' shipboard competence in terms of the shipboard training functions onboard when grouped according to profile?
  9. Is there a significant difference on the respondents' shipboard training performance in terms of shipboard training functions when grouped according to profile?
  10. Is there a significant relationship between the following:
    - 10.1 Respondents' perception on the quasi-military training contribution and shipboard training performance;
    - 10.2 Respondents academic performance in selected subjects and shipboard training competence?
  11. What are the implications of the findings of the study in the PMMA context of Maritime Education and Training?

## **1.4 Hypotheses**

The general assumption of the study is that contribution of the quasi-military experience, academic competence and shipboard training performance onboard has no significant differences as perceived by the respondents and has no significant relationships. However, to verify this assumption, the study, using the different statistical tools tested the following null hypotheses:

1. There is no significant difference on the academic performance of the respondents in selected maritime subjects.
2. There is no significant difference in the respondents' perception on the contribution of quasi-military training to their life and maritime competency.
3. There is no a significant difference in the respondents' shipboard training performance onboard.
4. There is no significant relationship between:
  - 4.1 respondents' academic competence and respondents' perception on the contribution of quasi-military experiences;
  - 4.2 respondents' academic competence and shipboard training performance;  
and
  - 4.3 respondents' perception on the contribution of quasi-military training to their life and maritime career and shipboard training performance onboard?

## **1.5 Scope and Limitations**

The major variables of the study include and limited to the (1) 1CL academic performance in the pre-identified subject areas, (2) shipboard training performance, (3) shipboard training competence in terms of shipboard functions, and (4) contribution of the quasi-military training embedded in the PMMA curriculum among the respondents. The variables are combination of qualitative and quantitative data.

The academic performance encompasses the performance of the respondents on major-technical subjects in maritime program. For Bachelor of Science in Marine Transportation (BSMT), the selected technical areas consist of seventeen (17) subjects, which include and limited to navigation, seamanship, deck watchkeeping, and other related subject under marine transportation degree. For Bachelor of Science in Marine Engineering (BSMarE), the selected technical subjects consist of eleven (11) subjects which include maintenance and operation of maritime machineries and system machine shop, naval architecture, watch keeping and other subjects under maritime engineering degree. Prior to the conduct of the study, the researcher planned to include twenty (20) subjects under BSMT and seventeen (17) subjects under BSMarE, however, the target batch of the respondents undergo curriculum revisions as prescribed by the Commission on Higher Education last school year 2014-2015, thus only respondents who manifest commonality was included. The academic performance was the final semestral rating of the respondents for each identified subject area. The data initially gathered from the respondents, however, some respondents do not provide complete and exact grades, thus, the researcher seek the permission of the academy to complete the data with the assistance of the academy's registrar officer.

Similarly, the shipboard training performance of the respondents during the one (1) year shipboard training program are determined and identified through a self-assessment survey. The shipboard training performance indicators were conceptualized as a result of unstructured interview among the alumni. This self-assessment survey describes the shipboard performance of the midshipmen/women during the on-job-training onboard. Indicators describes the knowledge of the maritime profession, characteristics of highly qualified maritime midshipmen/women onboard, and other related shipboard functions. The respondents accomplished the surveys during the initial data collection period.

Shipboard training competence, on the other hand, dealt with the performance of the respondents on the shipboard training functions during the one-year program



onboard. The researcher included these data to validate the assumptions that the respondents performance on selected subjects manifests with their performance onboard. The BSMT functions include (1) navigation at the operational level, (2) cargo handling and stowage at the operational level, and (3) controlling the operation of the ship and care for persons onboard at the operational level. Likewise, the BSMarE functions include (1) marine engineering at the operational level, (2) electrical, electronic, and control engineering at the operational level, (3) maintenance and repair at the operational level, and (4) controlling the operation of the ship and care for persons onboard at OIC level. The data were collected with the approval of the PMMA Superintendent from the Department Shipboard Training.

Furthermore, the quasi-military contributions were initially conceptualized during the focus group discussion with the selected alumni as participants. Indicators for the self-assessment survey were also provided as a results of the conversations and validated through the selected members of the graduating class not included in the respondent group. The Department of Midshipmen Affairs (DMA) also validate the indicators prior to the finalization of the survey. The DMA was included as secondary source of data and invited as participant of the focus group discussion because the unit implements the leadership and training program- the foundation of the quasi-military training of the PMMA maritime curriculum.

The respondents encompasses the selected graduating class of 2017, which has a total strength of one hundred thirty seven (137) out of two hundred and six (206) graduating class members. The methods of the study were limited to document analysis, survey, unstructured interviews, FGDs, and minimal yet extensive literature review. The major source of data was the selected graduating class of Batch 2017, while the secondary sources are the Office of the Registrar, Department of Shipboard Training, Department of Midshipmen Affairs, and selected PMMA officials. The study also tapped the assistance of the College of Marine Transportation and College of Marine Engineering as well as the Office of the Assistant Superintendent in Academics, Training, and Research.

Furthermore, the study was limited only with the PMMA, because of its uniqueness and applicability. Other educational institutions (non-military) can use some of the results; however, the high generalizability of the results may only be applicable to similar military educational institutions.

## **1.6 Significance of the Study**

The findings of the study are beneficial to the following entities.

1. PMMA. This study would be the Academy's reliable and concrete basis in revisiting the quasi-military training embedded in the PMMA curriculum to further improve the academic performance and shipboard training performance and competence of the midshipmen/women towards the achievement of the academy's educational goals.
2. PMMA mishipmen/women. The output of the study will bring improvement of academy's existing practices and will serve as evidence-based data to the PMMA officials in revisiting the quasi-military training inclusion in the curriculum. This ensure that the academy mandate and continued search for excellence will be at reach. This will also satisfy the needs of the mishipmen/women without affecting the culture the academy holds for a very long time.
3. Partner-shipping Companies. The results of the study will help the partner-shipping companies to understand better the PMMA mishipmen/women. The findings will also aid them in the formulation of policies and guidelines on sponsorship, recruitment, and adoption of PMMA mishipmen/women.
4. Maritime Education and Training (MET) Institutions. As maritime education and training advocates, they may duplicate the best practices and culture of the academy, likewise, pattern their training, and use the results to improve the teaching and learning process in maritime education and delivery of maritime training in their respective institutions and partners.

The local and global maritime industry. This study will be a great help for them to realize and understand that highly qualified and competent marine officers are

honed uniquely and customary. That the skills they must possess are far different from other counterpart professionals. In lieu of this, they may consider actively collaborate with the different Maritime Higher Education Institutions in the production and creation of these officers through dialogues, program support, and skills development programs.

## **2.0 METHODOLOGY**

### **2.1 Research Design**

In a technical sense, research is an academic activity. It is a scientific knowledge that contributes to the existing stock of knowledge for development and further advancement. A pursuit of truth, knowledge, and understanding with the help of observation, comparison, and experiment. It is a search for knowledge through a systematic method of understanding the situation, finding a solution for a problem, or searching for an answer.

The maritime sector, as a vital sector of the global trade and industry, is a direct beneficiary of research and development programs not only in the Philippines but around the globe. However, there are limited studies performed focusing on the variables of the study. Thus, the limited reference from literature, which may support the design of the study, has been experienced.

The researcher utilized the mixed method design, e.g. a combination of qualitative and quantitative design in a sequential approach. A quantitative study is a research approach based on measurement of quantity or amount, and it is applicable to phenomena that can be expressed in terms of numbers. The qualitative approach is concerned with phenomenon involving or relating to quality or kind. It aims to discover the underlying truth using qualitative methods such as interviews and focus group discussions for such purpose.

The study led to utilized methods data gathering method such as survey, document analysis, and unstructured interview and focus group discussion to understand, describe and determine the significance and relationship of and between the variables, thus the study is more descriptive in nature.

According to Kothari (2004) descriptive research includes surveys and fact findings of different kinds which primarily aims to describe the state of affairs as it exists at present. The methods of research utilized in descriptive research are survey methods of all kinds, including comparative and correlational methods. In analytical research, on the other hand, the researcher has to use facts or information already available and analyze these to make a critical evaluation of the material.

## **2.2 Source of Data**

The researcher gathered the needed data and information from the primary and secondary sources. The selected members of the graduating class of Batch 2017 were the primary source of data, while secondary sources included key units and offices of PMMA such as the Office the Registrar, the Department of Shipboard Training, the Department of Midshipmen/women Affairs and the Office of Assistant Superintendent for Academic, Training, and Research. Similarly, selected alumnus of PMMA and the Dean of both Colleges are included as part of the secondary sources.

## **2.3 Research Locale**

The research was conducted at the Philippine Merchant Marine Academy located at San Narciso, Zambales and in other parts of Metro Manila where the Head Offices of the PMMA's shipping and manning company partners and benefactors reside.

The PMMA is the pioneer institution in maritime education in the country. For 197 years, it has produced many master mariners, chief engineers, shipping executives, naval and coast guard officers, excellent educators and trainers now serving in maritime-related industries/institutions in our country and abroad.

It is a state-run academy enjoying support from its shipping and manning partners and benefactors. It was created by virtue of a Spanish Royal Decree issued on January 1, 1820 and was originally known as *Escuela Nautica de Manila*. The school was inaugurated on April 5 of the same year. Until 1863, it was located in the walled city of Intramuros, Manila.

The school was renamed and moved several times into different locations since its establishment. Finally in 1963, Republic Act No. 3680 converted the (then known as) 'Philippine Nautical School' into the 'Philippine Merchant Marine Academy'. After three decades of unforgettable and fruitful stay in Fort Bonifacio, Makati City since 1968, the PMMA was resettled in a 60-hectare land of the former American Radar Base in San Narciso, Zambales on January 31, 1998 under PD 937 and was inaugurated on May 25 of the same year.

Below is the satellite image of Zambales and neighboring areas showing the exact location of the research locale.

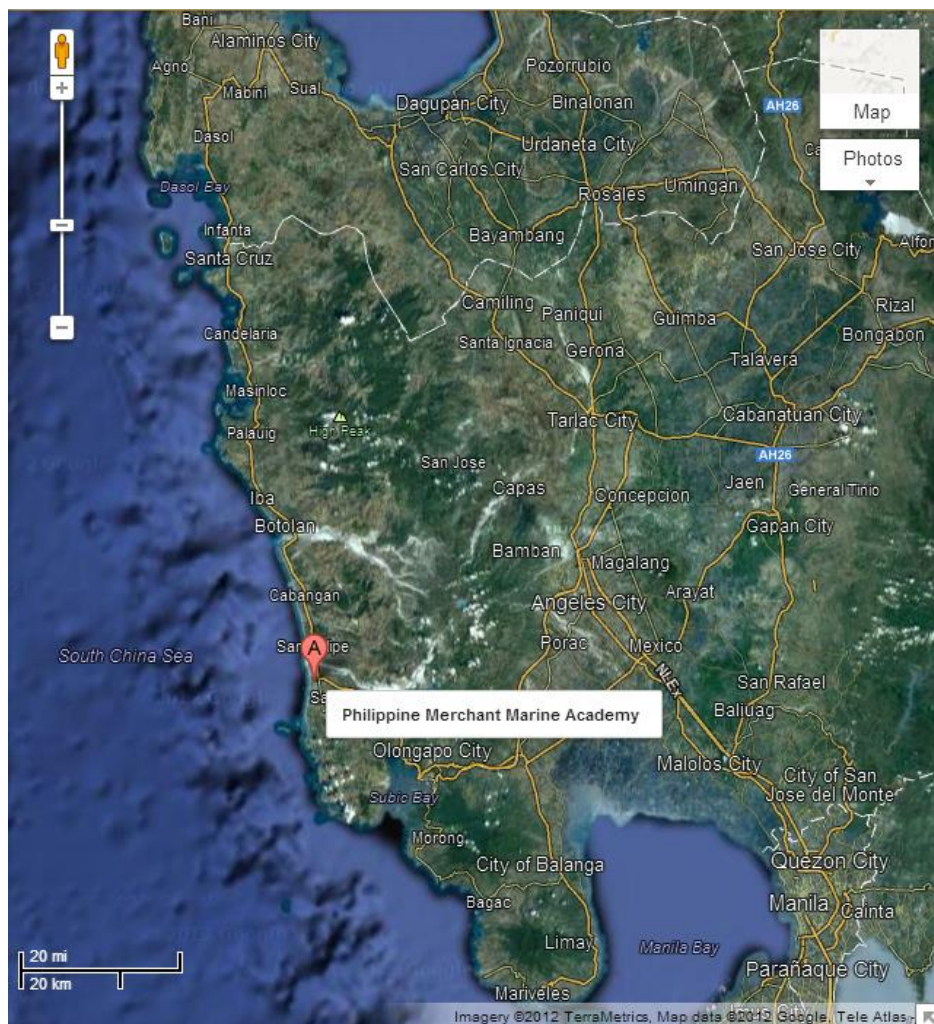


Figure 1: The locale of the study

## **2.4 Instrumentation**

The mixed method design led the researcher to utilize variety of data collection approach. The first method used was unstructured interviews among the selected alumni of the academy. The conduct of preliminary interview among these participants aimed to identify indicators, which was latter utilized on the construction of the survey. The shipboard training performance and the contribution of the quasi-military training indicators as reflected in the survey (see Appendix C) were the results of the conducted interviews.

The second method, the survey, immersed after the unstructured interviews, the constructed and validated survey was distributed among the target respondents. The survey was like a self-assessment survey, which used five-point likert scale to gather the perception of the respondents (see Appendix B).

However, during the survey, majority of the respondents did not indicate their academic performance in selected subjects for the reason that they only acquired grades from the last two academic year. This led the researcher to create a worksheet (see Appendix D) for the Registrar Office to fill in the final semestral grades of the target respondents in selected pre-identified subject areas.

Document analysis, on the other hand was performed with the data on shipboard training competence in terms of prescribed onboard function of the respondents. The document analysis focused on the evaluation of the Department of Shipboard Training on the respondents' competence after the one-year shipboard program. The form of this document reflects the competence for each function under each program. The document shows the average rating of the respondents' oral examination, CBT and Sea Project.

Finally, the focus group discussion were conducted to validate the initial findings. Selected PMMA alumni participated the discussion with the researcher and a facilitator. The participants were asked on their perception on the findings established and how these findings influence the MET.

## **2.5 Data Collection Method**

The variables include (1) academic performance in selected technical subjects, (2) shipboard training performance as perceived by the respondents, (3) shipboard training competence as reflected in the shipboard training evaluation form, and (4) the contribution of the quasi-military training among the selected graduating midshipmen/women of PMMA class of 2017.

Methods like survey, document analysis, unstructured interviews, and FDGs were utilized in the conduct of data collection. The survey focused on the collection of data and information pertaining to the viable experiences of respondents during the military training vis-à-vis its contribution among the graduates. Similarly, the data pertaining to the shipboard training performance of the respondents were through a survey. The survey is more likely a self-assessment survey, which shipboard training indicators were provided. Document analysis was utilized to analyse the academic competence of respondents in the selected technical subjects under the BSMT and BSMarE program. Document analysis was also utilized to analyse the shipboard training competence of the respondents based on the prescribed shipboard training functions onboard. The focus of the interviews were on the qualitative data, which mainly consist of the experiences of the selected alumni-respondents during their military training to their shipboard training program on international merchant seagoing vessel. The conduct of FDG supplemented the data on the quasi-military contribution among the PMMA midshipmen/women, The FDGs was performed with the selected alumni of the academy.

The study initially commenced in the latter week of June 2017 right after the grant of the conduct of the study was given. The initial data gathering was very timely because the graduating class were aboard for the graduation preparation and had just finished their one-year shipboard training program.

## **2.6 Data Analysis**

Data analysis were carefully selected and utilized to answer the research problems objectively. Data analysis encompasses the used of different statistical tools. The



major tool in the analysis of the data was the SPSS v.21. Frequencies and descriptive statistics were utilized to present the respondents' profile and perceptions towards the shipboard training performance and contribution of quasi-military training. The researcher carefully described the respondents' perceptions using the means and weighted means. One-way analysis of variance (ANOVA) was utilized to determine significant differences on the perceptions of the respondents. Likewise, correlation test using Pearson-r correlational test was utilized to determine significant relation among and between the variables.

For the academic performances and shipboard training competence, the study utilized the used of tables, graphs and charts to effectively present the data. Tables shows the academic performance of respondents for each subjects while graphs shows overall performance as a group. Moreover, the histogram shows the curve (skewness and kurtosis) which reflects the performances and competencies of the respondents accordingly.

## **3.0 RESULTS AND DISCUSSIONS**

### **3.1 Profile of the Respondents**

The respondents were consisted of one hundred thirty-seven (137) 1CI mishipmen/women of PMMA officially enrolled and completed the one-year shipboard training program from an international sea going vessel. One hundred twenty-five (125) or 91.2 percent of the respondents were males while twelve (12) or 8.8 percent are females.

Sixty-nine (69) or 50.4 percent are enrolled under the Bachelor of Science in Marine Transportation while the remaining sixty-eight (68) or 49.6 percent are Bachelor of Science in Marine Transportation.

In terms of age breakdown in years, one hundred three (103) of 75.2 percent ages 20-22, thirty (30) or 21.9 percent ages from 23-25, and four (4) or 2.9 percent ages from 26-28 years old. The mean age of the respondents is 22 years.

In terms of type of ship aboard during the one-year shipboard training program, three (3) or 2.2 percent from general cargo vessels, one (1) or 0.7 percent from very large crude carrier, twenty (20) or 14.6 percent from container ship, one (1) or .7 percent from cargo vessel, sixteen (16) or 11.7 percent from tanker ship, eighty (80) or 58.4 percent from bulk ship, and sixteen (16) or 11.7 percent from other ship including chemical tanker and specialized tanker. Majority of the respondents took shipboard training on bulk ships.

The educational background of the respondents prior to PMMA entry revealed that eighty (80) or 58.4 percent of the respondents are high school graduate, seven (7) or 5.1 percent are high school graduate with technical vocational course, thirty-eight

(38) or 27.7 percent are college level, and twelve (12) or 8.8 percent are college graduate. Majority of the respondents are high school graduate. This result may be attributed to the Board of Admission Unit's regular and synchronize recruitment with the different secondary high school nationwide annually.

### 3.2 Respondents' Academic Performance in Selected Maritime Subjects

The study gathered the academic performance in selected maritime subjects of the respondents. The following table shows the respondents' summary of final semestral rating. The academic performance is presented in descending order.

Table 1: BSMT- Respondents Academic Performance in Selected Maritime Subjects

BSMT Selected Subjects	N	Mean	Std. Deviation	Skewness	
	Statistic	Statistic	Statistic	Statistic	Std. Error
Trim, Stability and Stress 1	74	1.8885	.32882	.065	.279
Trim, Stability and Stress 2	74	1.8851	.33410	.654	.279
Cargo Handling and Stowage	74	1.7905	.17075	-.216	.279
Celestial Navigation	74	1.7466	.20479	-.589	.279
Meteorology and Oceanography 2	74	1.7297	.26418	.165	.279
Ship Handling and Maneuvering	74	1.7128	.22921	.084	.279
Terrestrial and Coastal Navigation 2	74	1.7095	.20701	-.281	.279
Terrestrial and Coastal Navigation	74	1.7095	.23418	-.797	.279
Voyage Planning	74	1.6385	.22338	-.285	.279

Operational Use of ECDIS	74	1.6318	.24559	-.256	.279
Collision Regulations	74	1.5878	.23926	-.188	.279
Navigation Instruments w/Compasses	74	1.5845	.20389	1.011	.279
Ship, Ship Routines and Ship Construction	74	1.5845	.14499	.668	.279
Dangerous Goods and Inspection	74	1.5709	.21310	.367	.279
Deckwatchkeeping	74	1.5676	.16185	-.325	.279
Meteorology and Oceanography 1	74	1.5000	.14335	.000	.279
Operational Use of Radar/ARPA	50	1.4500	.17496	.670	.337
Valid N (listwise)	50				

The academic performance of the BSMT-respondents shows that the students' overall performance is very good. With the highest mean of final semestral rating of 1.4500 and lowest of 1.8885.

From the eighteen (18) selected subjects the respondents significantly performed in Operational Use of Radar/ARPA, Meteorology and Oceanography 1, and Deckwatchkeeping. The exemplary performance on the subject areas can be attributed the academy's provision of facilities and equipment that enhanced the teaching and learning process. Additionally, deck watchkeeping was integrated as early as the first year of the BSMT-respondents' program. The academy's partnership with the Subic Bay Metropolitan Authority, Philippine Coast Guard & Philippine Navy gave way for the respondents to explore the deck watchkeeping and practiced the principles behind of this function.

On the other hand, least performed subjects of the respondents include Trim and Stability 1&2, Cargo Handling and Stowage, and Celestial Navigation. The subjects Trim and Stability 1 and 2 according to one of the professor are certainly difficult for

the respondents because it requires mathematical skills such as calculations and complex operations, which the BSMT students are not typically inclined.

Table 2: Respondents Average Academic Performance

N	Valid	74
	Missing	63
Mean		1.6915
Std. Deviation		.13567
Skewness		-.181
Std. Error of Skewness		.279
Kurtosis		-.185
Std. Error of Kurtosis		.552
Percentiles	25	1.5910
	50	1.7105
	75	1.7818

The overall mean of final semestral rating of the academic performance of the respondents is 1.69 with a standard deviation of 1.36. Although the overall performance is very good as interpreted by the grading system provided by the Registrar Office, the skewness (-.181) and kurtosis (-.185) shows that the academic performance of the respondents is skewed to the left which means that majority of the students performed below the median and mean score and that there are extreme performances.

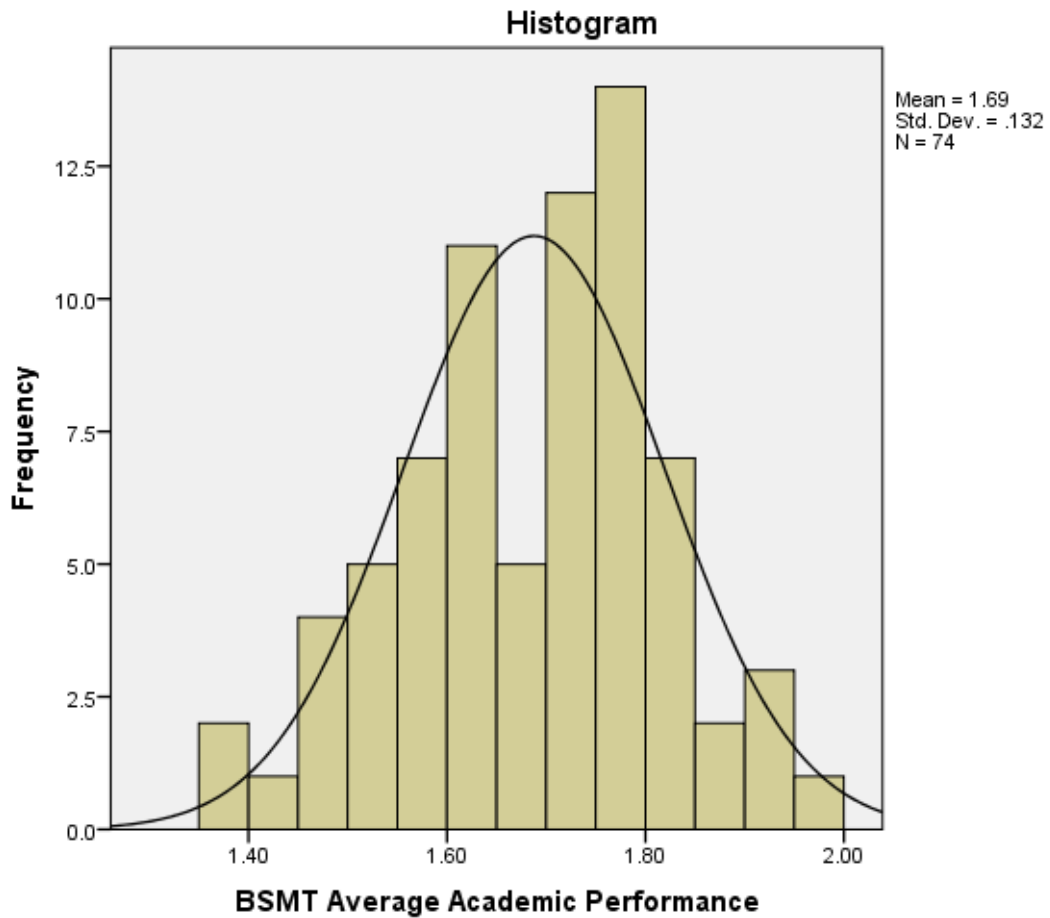


Figure 2: The Histogram of the BSMT Respondents Average Academic Performance

This is also reflected in the histogram above. The curve shows that the left tail is longer than the right tail which confirmed the negative value of skewness above.

Although it is not comparable, the BSMT-respondents performance is by some means lower than its counterpart- the BSMarE. In the study of Magsino et al (2015), the performances of the BSMT in both academic and shipboard are also found out to be significantly low than the other group.

The study seemed to relate the performance of the BSMT group as one of the effects of the training. In the succeeding findings, the study found out that the effect of the training or the contributions of training per se were perceived higher by this

group. While it is too early, the study assumed that it might be the factor, which affects the performance of the BSMT-respondents.

Another possible reason is that, the BSMT department faculty members' majority composed of tactical officers as instructors. The fact that tactical instructors are designated to implement leadership and discipline training program in relation to the quasi-military in the academy, they might overdo it inside the classroom. Remember that these alumni hired as instructors once went through the rigorous aspect of quasi-military training, which is very more strict and tedious compared to the later years. Unlike with the other department which mainly composed of diverse engineers. Thus, the provision of the conducive classroom for learning may be jeopardized making the midshipmen/women vulnerable to quality learning.

It must not be the case; however, the PMMA highly preferred alumni in hiring and selection of teachers, and these alumni are only there to teach during their shore leaves. According to PMMA officials, the high turnover rate of the members of the faculty led the PMMA to designate teaching assignment among the tactical officers.

Table 3: BSMarE- Respondents Academic Performance in Selected Maritime Subjects

<b>Descriptive Statistics</b>						
BSMarE Subjects	Selected	N	Mean	Std. Deviation	Skewness	
		Statistic	Statistic	Statistic	Statistic	Std. Error
Marine Automation		63	1.81	.184	1.610	.302
Electro Technology		63	1.78	.175	-.155	.302
Auxiliary Machine Basic Construction, and Operating Principles , Preparation, and Fault Detection		63	1.70	.141	-.028	.302
Machine Tool		63	1.69	.160	.255	.302

Shipboard Maintenance and Repair	63	1.67	.116	-.886	.302
Application of Marine Electronic System	63	1.61	.184	.129	.302
Naval Architecture	63	1.58	.166	.948	.302
Electro Technology	63	1.57	.321	-1.845	.302
Fabrication, Welding, Joining & Cutting	63	1.56	.246	-4.218	.302
Watch keeping with ERS	63	1.56	.145	.458	.302
Shop Safety, Hand & Power Tools	63	1.48	.161	1.178	.302
Valid N (listwise)	63				

The academic performance of the BSMarE-respondents shows that the students' overall performance is also very good. With the highest mean of final semestral rating of 1.4800 and lowest of 1.8100.

From the eighteen (18) selected subjects the respondents significantly performed in Shop Safety, Hand and Power Tools, Watchkeeping with ERS and in Fabrication, Welding, Joining and Cutting. The state-of-the-art facilities of the Academy, especially the machine shops, donated by the international partners shipping industry aid the development of skills among the BSMarE-respondents. With this kind of learning laboratories and workshops, midshipmen/women enjoyed the 1:1 ratio of tools and equipment making them mastered all the necessary skills. Accordingly, the preparation of the use of appropriate tools for fabrication and repair operations; proper use of measuring equipment such as calipers, dividers, gauges, steel rule, thread gauge, etc.; use of electrical and electronic measuring and test equipment and other was very satisfactory (Magsino et al, 2015).

On the other hand, the least performed subjects of the respondents include Marine Automation, Electro Technology 2, and Auxiliary Machine Basic Construction, and Operating Principles, Preparation, and Fault Detection. One of the midshipmen



shared that these areas can only be mastered onboard. Indeed, the theories and principles are well explained and taught in the academy but the real applications and scenarios can only be obtained from the shipboard training program. Simulation is one of the means of the PMMA to cater the needs of the midshipmen/women of real scenarios, however, simulation only duplicate the process, but the real scenes, objects (especially its form and size), and other external factors which may affect the process such as faults are all aboard sea going ship.

Table 4: BSMarE-Respondents Average Academic Performance

N	Valid	63
	Missing	74
Mean		1.6529
Std. Deviation		.10124
Skewness		-.052
Std. Error of Skewness		.302
Kurtosis		-.806
Std. Error of Kurtosis		.595
Percentiles	25	1.5688
	50	1.6625
	75	1.7250

The overall mean of final semestral rating of the academic performance of the respondents is 1.6529 with a standard deviation of .101. The BSMarE academic performance as reflected in the overall mean of the final semestral rating is also very good. However, comparing the dispersion of the academic performances of the groups, the academic performances of this group is closer than the other. This means that scores are more closely concentrated in within the area of the means. Although the skewness (-.052) still longer in the left tail it is much shorter than the skewness of the other group. However, kurtosis (-.806) shows this group manifests higher extremities.

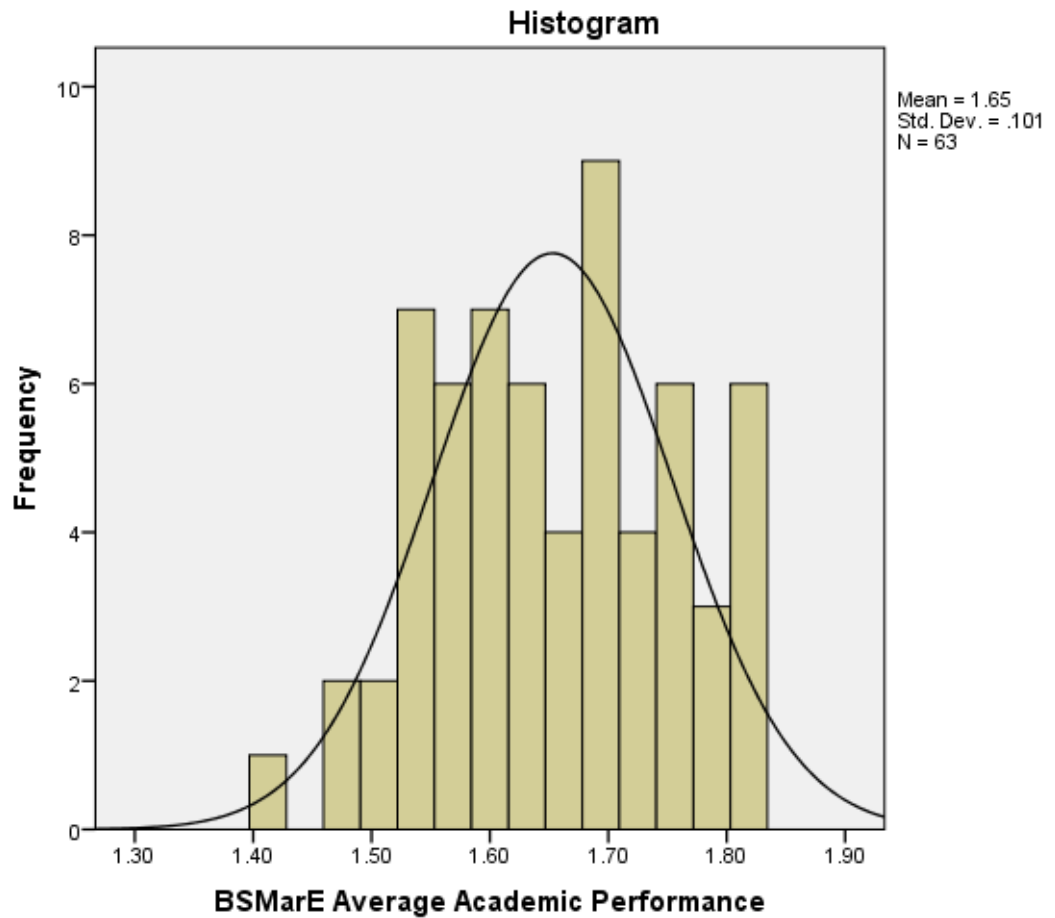


Figure 3: The Histogram of the BSMarE Respondents Average Academic Performance

The kurtosis value reflects the extremities points above the normal curve in the histogram above. Majority of the respondents' academic performance reached points above the normal curve.

As mentioned earlier, this finding confirms the findings of Magsino et al (2015) in relation to the outstanding performance of the BSMarE department than its counterpart. The study found out that the knowledge and understanding of the BSMarE midshipmen/women are attributed to the support and available resources of the department, creativeness, and competency of technical faculty members, and adequacy of workshops.

### **3.3 Respondents' Perception on the Contribution of the Quasi-Military Training**

Accordingly, the life of the midshipmen/women in the academy is a life of hardships and sacrifices. In the beginning and during the transition period, the alumni undergo difficulties. The life outside the academy is far different from the military life inside the academy. One of the participants said that "I want to go home on the very first day of the training". Others collectively agreed that the first few weeks of the probationary period is very hard and was a shock. It is a life of physical and mental struggles. There is a resistance to change; the acceptance of a regimented life offered by the quasi-military training has become very difficult among the probationary trainees. However, after some time, the participants meaningfully shared that the routine life inside the Academy was not bad at all. Although the everyday challenges wanted and pushed them to quit and go home, it made them life fulfilling, offered more direction, and made them focused to achieve a certain goal. The everyday challenges also offered them excitements and made them not to notice the passing of time. As if the life inside the Academy gave them everyday missions and tasks and made them busy and keep going. Another significant statement from one of the participants is that "I didn't notice that I can live a life like that....Yes, it is hard...and yet very fulfilling. I can't believe that I can finish my stay at the Academy, that I can withstand the training, time goes as if every day is a new life. ....and look at me now, I am completely different person....".

When asked what were the contributions of the quasi-military training embedded in their curriculum, most of the participants shared positive responses. The demand for physical training and the academics taught them how to utilize their physical and mental capabilities. They have learned how to utilize their energy properly. The quasi-military training taught them the importance and how to value time because everyday time is always of the essence. The demands of the training also made them developed unusual yet effective study habits. "There was a time when even in the middle of the night, I crawled to the comfort room and in the cubicle I study. It is the only place in the barracks where the lights are lit all night. There I am able to steal hours to review and prepare for exam. Because time is always at the essence and strictly followed as part of the daily routine. To be caught violating it will be

subjected to sanctions” one participant shared. Likewise, the participants shared that inside the academy there are only two known things- punishment and reward, the alumni learned how to think and act fast without compromising anything because of these two most important things. However, the participants shared that choosing either punishment or reward had the same level of impact among them, this Academy's practice made them tougher, which is very important because they hold this character, they brought this toughness aboard sea going vessels.

Furthermore, the participants agreed that the quasi-military training taught them how to prioritize tasks and how to perform it effectively, made them more focused, more disciplined, stable and can make sound decisions even under pressure, how to separate thoughts from academics and training, and have a good perspective on life. Another participant shared that “The leadership skills I have now, how I perceive my career, the pressure being a seafarer and maritime officer at the same, is what the Academy and the training in the Academy taught me....I am what I am now because of that training...and I am very thankful I’ve been part of that very difficult life because it made me look at life differently....even I suffered a lot, my success paid that suffering. The training taught me to compensate from mistakes in undertaking tasks. Learning to be more than responsible as duty dictates it. Knowing that with that responsibility gravely encompasses accountability, the pressure of the training made me a man”. Lastly, another participant shared that “Being good and being proper is the key in becoming a good leader, a maritime officer... we can share and live through this by making ourselves as a good role model, a good example. This is the fulfilling and meaningful aftermath of the participation in a quasi-military institution of which the PMMA will be proud. Leaders are mould traditionally and the culture was sustained continuously”.

The unstructured interview guide also covers the contribution of the quasi-military training experienced during their onboard career. According to participants, the skills and character honed during the training efficiently served its purpose onboard. “A chief engineer of 25 years shared that “What we are doing inside the academy, our life in the barracks, is actually a replica of what life is onboard... thus life onboard is very easy...so easy. Because we are practiced to obey, obey and obey inside the

academy, following orders from an officer onboard is not a problem for us at all...in the beginning of my career some of my officers said one time that, we, PMMAers are not hard headed, and this will be our ticket to becoming an officer and it made me proud.. Until such time that I became one of them and realize that the secret of good leadership is rooted in being obedient, humble, disciplined, selflessness, leading by example, and respect for multi-cultural crew. I even ask my subordinates before I made a decision, I collectively and humbly engaged them in short conversations to gather information before I decide for some matters. I think it was an essential part of being trained in a quasi-military setting”.

In general, the participants agreed that a physical stamina, mental focus, decision making skills, ability to work even under pressure and emergencies, proper values, respect to others, good communication skills, discipline, time management, and obedience are among the traits honed in the academy which really aid them to overcome the challenges onboard and made them a highly qualified seafarer and maritime officers.

To effectually converse the quasi-military contributions among the target respondents, the responses from the participants of unstructured interviews utilized by the researcher to develop the indicators below. The eighteen (18) five-point Likert indicators was the summary of the initial finding from the participants. However, the researcher decided to include some negative indicators to verify the minimal negative contributions of the quasi-military training. The results of the survey, which may validate the initial stories of the participants towards the contribution of the training are shown below.

Table 5: Weighted and Qualitative Rating of the Respondents Perception on the Quasi-Military Training Contribution

Quasi-military Training Contribution Indicators	Mean	Qualitative Rating
1. The academy's common core/ideals (Humility, Righteousness, Courage) made me more disciplined and increased my self-control.	4.7591	Strongly Agree
2. The academy's common core/ideals enhanced my capability to handle critical situations.	4.7737 <sup>3.5</sup>	Strongly Agree
3. The military training taught me to become apathetic.	4.6934	Strongly Agree
4. The military training I had received prepared me for the life onboard.	4.7591	Strongly Agree
5. The military training enhanced my decision-making skills.	4.7007	Strongly Agree
6. The military training diverted my focus to physical pursuits only.	4.5401	Strongly Agree
7. The military training taught me how to use my resources (e.g. time, effort, attention, etc.) properly.	4.7737 <sup>3.5</sup>	Strongly Agree
8. The military training taught me how to plan, manage and execute task effectively.	4.7445	Strongly Agree
9. The military training made me indifferent from other normal students.	4.8394 <sup>1</sup>	Strongly Agree
10. The military training prepared me to live life and do task under pressure	4.7153	Strongly Agree
11. The military training developed my skills in working with team/s and increased positive relationship with others	3.9927	Moderately Agree
12. The military training participation restricted my academic activities	4.6715	Strongly Agree
13. The military training taught me how to identify, manage, and provide solutions to problems and conflicts	4.6277	Strongly Agree
14. The military training improved my safety and security awareness and orientation	4.7810 <sup>2</sup>	Strongly Agree

15. The military training taught me how to become detached from my family	4.5839	Strongly Agree
16. The military training developed and increased my sense of responsibility	4.6642	Strongly Agree
17. The military training enhanced my emergency and survival skills	4.4453	Strongly Agree
18. The military training developed my focus, attentiveness, and cautiousness	4.6277	Strongly Agree
<b>Quasi-military Training Contribution</b>	<b>4.6500</b>	<b>Strongly Agree</b>

In descending order, the respondents strongly agree (4.8494) that the military training made them indifferent from other normal students, strongly agree (4.7810) that the military training improved their safety and security awareness and orientation, and both strongly agree (4.7737) that the academy's common core/ideas enhanced their capability to handle critical situations, and that the military training taught them how to plan, manage and execute task effectively.

Although respondents perceived almost indicators as strongly agree, there are least indicators which caught the attention of the researcher. These include the military training developed their skills in working with team/s and increased positive relationship with others (3.9927) which perceives as moderately agree, the military training enhanced my emergency and survival skills (4.4453), and that the military training diverted their focus to physical pursuits (4.5401).

The overall weighted mean of the respondents' perception on the contribution of the quasi-military training is strongly agree with a weighted mean of 4.6500.

In the analysis of the responses of the group, the study found out that the quasi-military training was highly perceived by female respondents, ages 26-28, college graduate, and aboard chemical tanker and bulk ships. On the other hand, respondents ages 23-25, high school graduate, aboard tanker ships least perceived the quasi-military training contribution.

Table 6: The Cross-tabulation of Quasi-Military Training Contribution by Course

<b>Quasi-military Training Contribution * Course Crosstabulation</b>				
Count				
		Course		Total
		BSMarE	BSMT	
Quasi-military Contribution	4	1	0	1
	4	0	1	1
	4	1	0	1
	Moderately Agree	1	1	2
	4	1	1	2
	4	1	2	3
	4	2	1	3
	4	1	1	2
	4	3	0	3
	4	3	1	4
	4	4	3	7
	4	4	1	5
	5	4	0	4
	5	5	4	9
	5	3	3	6
	5	6	3	9
	5	4	5	9
	5	8	5	13
	5	10	6	16
	5	3	9	12
5	4	6	10	
Strongly Agree	0	15	15	
Total		69	68	137

The cross tabulation above shows that from the perspective of the two groups-the BSMT and BSMarE, the quasi-military training contribution was highly perceived by



the BSMT group. This gap may suggest that the group who got lower academic performance may usually be outperformed in the shipboard training performance.

### 3.4 Respondents' Shipboard Training Performance as Perceived by the Respondents

In the third year, the midshipmen/women undergo the one-year shipboard training from an international seagoing vessel. This period gives the respondents opportunity to practice and apply the maritime theories and principles learned from the academy. This also served as their training ground for various equipment and facilities onboard.

Again, the indicators below were adapted from the collective data of the responses of the participants during the interviews.

Table 7: Weighted Mean and Qualitative Rating of the Shipboard Training Performance as Perceived by the Respondents

Shipboard Training Performance Indicators	Mean	Qualitative Rating
1. Clearly understand the nature of the maritime profession.	4.6569	Outstanding
2. Positively and confidently accept tasks assigned onboard.	4.6204	Outstanding
3. Confidently apply the acquired maritime theories, knowledge, and skills in every task and assignment.	4.6277	Outstanding
4. Freely communicate with immediate supervisor for clarifications and questions regarding task and assignment.	4.5547	Outstanding
5. Easily mingle and communicate with multi-cultural crew onboard.	4.5109	Outstanding
6. Stand pressure and the rigid nature of work and perform task positively.	4.4964	Outstanding
7. Develop resourcefulness and innovatively adapt to any given task.	4.5766	Outstanding
8. Easily participate in a team/group to finish a job.	4.4818	Outstanding

9. Finish the job satisfactorily and accordingly.	4.6350	Outstanding
10. Freely and positively accept criticism, comments, and suggestions from supervisor/s and other member/s of the crew.	4.3433	Outstanding
11. Easily learn other things aside from the assigned task and function.	4.0522	Very Satisfactory
12. Work with minimal supervision.	4.3134	Outstanding
13. Work with pride, integrity, and quality.	4.3060	Outstanding
Shipboard Training Performance	4.4730	Outstanding

Respondents perceive that they clearly understand the nature of the maritime profession as outstanding (4.6569), finish the job satisfactorily and accordingly as outstanding (4.6350), and confidently apply the acquired maritime theories, knowledge, and skills in every task and assignment as outstanding (4.6277).

On the other hand, among the indicators, respondents perceive easily learn other things aside from the assigned task and function as very satisfactory. This was the least perceive indicator and was found out to be significant during the interview. The participants shared that this may be attributed to the weakness of the curriculum with regards to tanker ships. Tanker ships is considerably one of the most sophisticated vessels in terms of equipment for cargo operations. There are also many restrictions to access and responsibility to the operation of this equipment. Knowing that the cargo carried on board on these vessels are flammable and explosive, the crew's definite designated tasks and duties and operations are strictly monitored. The only time to teach cadets and for them to appreciate how the equipment work is during cargo operations. Likewise, it also depends on how an officer can handle multiple tasks. This suggest that the critical cargo operations tend to limit the officer's time and opportunity to teach a cadet.

In addition, the ability of an officer relies on his confidence to teach cadets. The officer's confidence, on the other hand, relies from the years of his on-job experience, his mastery of his duties and responsibilities as well as how he see and trust the cadet. Most young officers has little confidence unlike the old ones. Most

experienced officers are more approachable and dependable in teaching a cadet onboard. Thus, the onboard learning during shipboard training also depends whether the ship is new and sophisticated or old and manageable. Sophistication of the vessel equipment to the eyes of an experienced or new sailor may differ from how they adapt to its use. And with that adaptation also comes the confidence to teach the cadets.

This validate that the culture of learning inside the classroom is different from the culture of learning onboard. The level of implementation of shipboard learning given by the ship's officers dictates also the success of the shipboard training program.

Lastly, tanker ships has shorter time in port, giving minimal time for the cadets to observe and learn cargo operations

The analysis of responses revealed that female, ages 20-22, aboard a very large crude carrier, container ship, and bulk, college level highly perceive their shipboard training performance while the males ages 23-25 aboard chemical and tanker ship high school graduate least perceived their shipboard training performance.

Table 8: The Cross-tabulation of Shipboard Training Performance of the Respondents by Course

<b>Shipboard Training Performance * Course Crosstabulation</b>				
Count				
		Course		Total
		BSMarE	BSMT	
Shipboard Training Performance	3.15	3	0	3
	3.38	0	1	1
	3.46	1	0	1
	3.69	1	1	2
	3.85	3	2	5
	3.92	0	1	1
	Very Satisfactory	3	1	4
	4.08	2	1	3

	4.15	3	4	7
	4.23	3	7	10
	4.31	5	3	8
	4.38	4	3	7
	4.46	3	3	6
	4.54	5	5	10
	4.62	6	12	18
	4.69	7	5	12
	4.77	3	6	9
	4.85	4	2	6
	4.92	5	5	10
	Outstanding	8	3	11
Total		69	65	134

The cross tabulation above shows the significant gap of the shipboard performance when group according to course. The shipboard performance of BSMT is higher than the BSMarE as perceived by the respondents. Although there is the slight difference the academic performance of the two groups, the BSMT highly performed during the one-year shipboard training program.

### 3.5 Respondents' Shipboard Training Competence in terms of Shipboard Training Functions

Table 9: Descriptive Statistics of the BSMT Respondents Shipboard Training Competence in terms Shipboard Training Functions

	N	Minimum	Maximum	Mean	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
Navigation at the Operational Level	63	65.82	92.36	81.7543	5.72778	-.650	.302	.232	.595

Cargo Handling and Stowage at the Operational Level	63	69.65	95.35	83.2016	5.72452	-.372	.302	-.328	.595
Controlling the Operation of the Ship and Care for Persons Onboard at the Operational Level	63	51.43	93.88	80.5933	6.81251	-1.151	.302	4.265	.595
Valid N (listwise)	63								

Table 9 shows the shipboard training competence of the BSMT-respondents in terms of the functions onboard. From the three (3) shipboard functions, the most performed is with the cargo handling and stowage at the operational level with an overall mean of 83.2016, followed by navigation at the operational level with an overall mean of 81.7543 and controlling the operation of the ship and care for persons on board at the operational level with an overall mean of 80.5933.

The skewness of the competence in all functions is negatively skewed which suggests that majority of the respondents fall below the mean competence of the group. Kurtosis of the competence suggest minimal extremities except for cargo handling and stowage, competence level of the respondents gives more extremities in this function.

Table 10: Descriptive Statistics of the Overall Mean of BSMT Respondents Shipboard Training Competence

N	Valid	63
	Missing	74
Mean		81.8497
Std. Deviation		5.22128
Skewness		-.543
Std. Error of Skewness		.302
Kurtosis		-.081
Std. Error of Kurtosis		.595
Percentiles	25	78.6400
	50	82.6733
	75	85.8167

Descriptive statistics show the overall mean of the shipboard competence of the BSMT-respondents. The overall mean is 81.8497, skewed to the left at-.543 with minimal extremities as reflected by the -0.81 kurtosis.

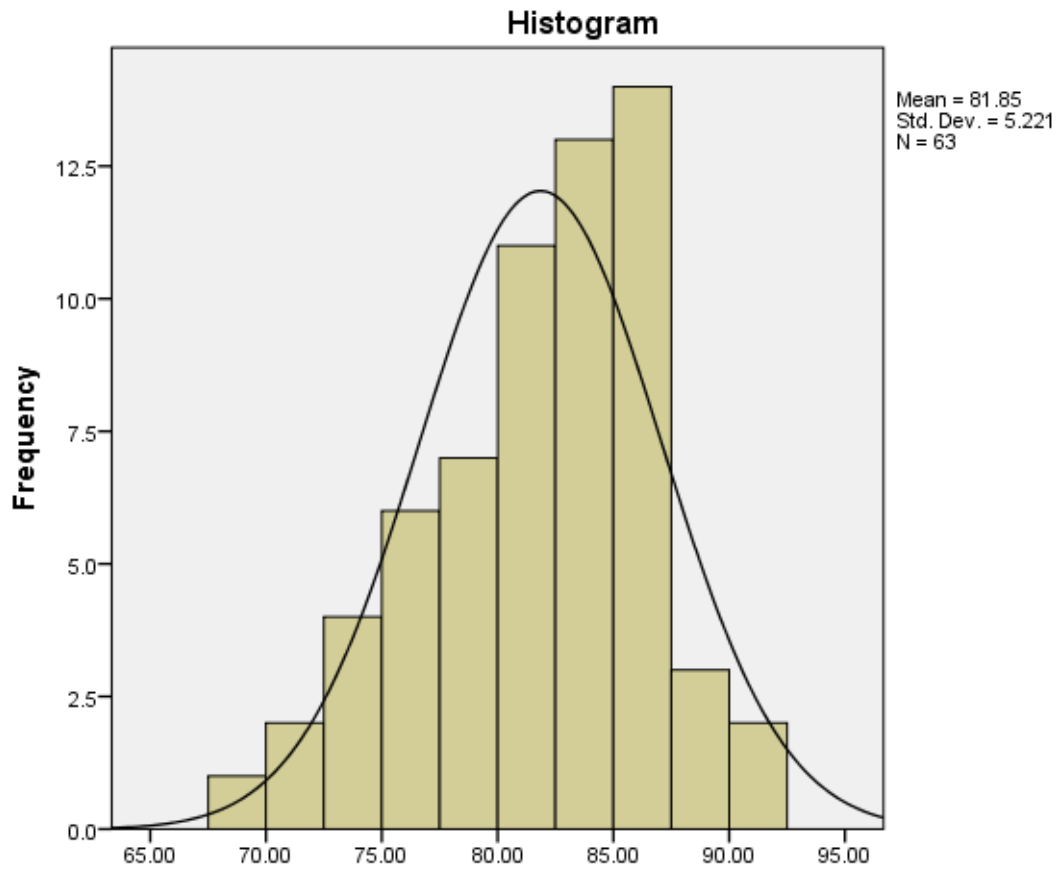


Figure 4: BSMT Respondents Average Shipboard Training Competence

The histogram of the shipboard training competence shows longer tail at the left which suggests that more respondents fall below the mean shipboard competence. However, there is some point where extremities can be defined after the mean competence

Table 11: Descriptive Statistics of the BSMarE Respondents Shipboard Training Competence in terms Shipboard Training Functions

	N	Minimum	Maximum	Mean	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
Marine Engineering System at the Operational Level	63	75	97	86.23	4.286	.002	.302	-.175	.595
Electrical, Electronic, and Control Engineering at OIC Level	63	78	98	85.65	4.972	.285	.302	-.661	.595
Maintenance and Repair at the Operational Level	63	70	99	84.32	5.961	.286	.302	.143	.595
Controlling the Operation of the Ship and Care for Persons Onboard at OIC Level	63	75	97	84.39	5.426	.552	.302	-.459	.595
Valid N (listwise)	63								

Table 11 shows the shipboard training competence of the BSMarE-respondents in terms of the functions onboard. From the four (4) shipboard functions, the most performed is marine engineering system at the operational level with an overall mean of 86.23, followed by electrical, electronic, and control engineering at OIC



level with an overall mean of 85.65, then controlling the operation of the Ship and Care for Persons Onboard at OIC level with an overall mean of 84.39, and lastly maintenance and repair at the Operational Level with an overall mean of 84.32. The skewness is all positive, showing the longer tail beyond the means of the competence. Kurtosis shows the evidence of extremities of the individual competence.

Table 12: Descriptive Statistics of the Overall Mean of BSMT Respondents Shipboard Training Competence

N	Valid	63
	Missing	74
Mean		85.15
Std. Deviation		3.106
Skewness		.344
Std. Error of Skewness		.302
Kurtosis		-.213
Std. Error of Kurtosis		.595
Percentiles	25	82.82
	50	85.08
	75	87.38

Descriptive statistics show the overall mean of the shipboard competence of the BSMarE-respondents. The overall mean is 85.15, skewed to the right at .344 with minimal extremities as reflected by the -0.21 kurtosis.

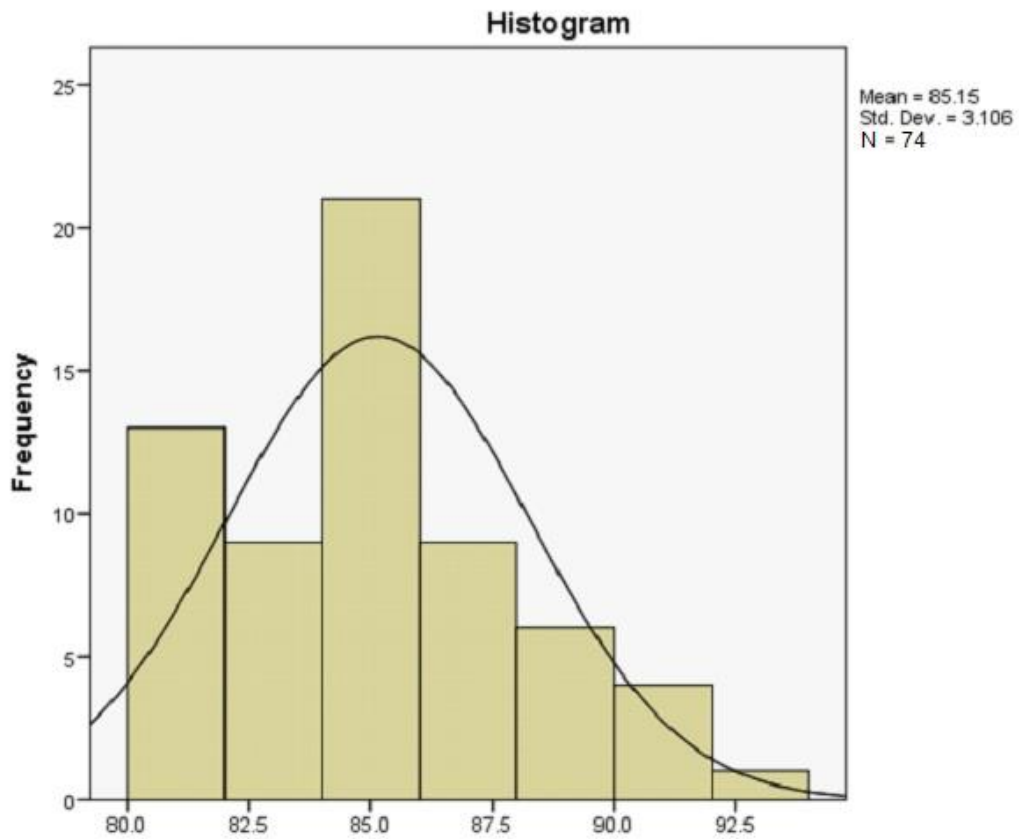


Figure 5: BSMarE- Respondents Average Shipboard Training Competence

The histogram of the BSMarE-respondents shipboard training competence shows almost perfect normal curve than the BSMT-competence. Majority of the respondents' competence level fall beyond the means and extremities higher the means is evident.

### 3.6 Significant Difference on the Academic Performance of Respondents when grouped according to Profile

Table 13: Significance Difference on the Academic Performance of BSMT Respondents when grouped according to Profile

#### ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
Sex	Between Groups	4.338	55	.079	.710	.835
	Within Groups	2.000	18	.111		
	Total	6.338	73			
Age	Between Groups	9.788	55	.178	.384	.997
	Within Groups	8.333	18	.463		
	Total	18.122	73			
Type of Ship	Between Groups	128.649	55	2.339	.569	.944
	Within Groups	74.000	18	4.111		
	Total	202.649	73			
Highest Educational Background	Between Groups	64.293	55	1.169	.971	.556
	Within Groups	21.667	18	1.204		
	Total	85.959	73			

Among the profile variable, there is significance difference on the BSMT-respondents' academic performance in term of sex, age and type of ship.

Table 14: Significance Difference on the Academic Performance of BSMarE respondents when grouped according to profile

**ANOVA**

		Sum of Squares	df	Mean Square	F	Sig.
Sex	Between Groups	2.937	41	.072	.902	.622
	Within Groups	1.667	21	.079		
	Total	4.603	62			
Age	Between Groups	13.103	41	.320	1.611	.121
	Within Groups	4.167	21	.198		
	Total	17.270	62			
Type of Ship	Between Groups	56.833	41	1.386	1.072	.445
	Within Groups	27.167	21	1.294		
	Total	84.000	62			
Highest Educational Background	Between Groups	50.690	41	1.236	.992	.524
	Within Groups	26.167	21	1.246		
	Total	76.857	62			

The analysis of variance shows that there is no significant difference on the BSMarE-respondents' academic performance when grouped according to profile.

Table 15: Significance Difference on the Respondents Perception on the Contribution of Quasi Military Training when grouped according to profile

**ANOVA**

		Sum of Squares	df	Mean Square	F	Sig.
Sex	Between Groups	3.711	21	.177	2.807	.000
	Within Groups	7.238	115	.063		
	Total	10.949	136			
Course	Between Groups	8.729	21	.416	1.873	.019
	Within Groups	25.519	115	.222		
	Total	34.248	136			
Age	Between Groups	6.465	21	.308	1.221	.247
	Within Groups	28.995	115	.252		
	Total	35.460	136			
Type of Ship	Between Groups	67.252	21	3.202	1.608	.059
	Within Groups	229.011	115	1.991		
	Total	296.263	136			
Highest Educational Background	Between Groups	26.075	21	1.242	1.038	.425
	Within Groups	137.560	115	1.196		
	Total	163.635	136			

Table 15 shows that there is no significant difference on the contribution of the quasi-military training as perceived by the respondents when they were group according profile variables.

Table 16: Significance Difference on the Respondents Shipboard Training Performance when grouped according to Profile

**ANOVA**

		Sum of Squares	df	Mean Square	F	Sig.
Sex	Between Groups	1.764	19	.093	1.270	.217
	Within Groups	8.333	114	.073		
	Total	10.097	133			
Course	Between Groups	4.018	19	.211	.819	.681
	Within Groups	29.452	114	.258		
	Total	33.470	133			
Age	Between Groups	7.689	19	.405	1.703	.045
	Within Groups	27.095	114	.238		
	Total	34.784	133			
Type of Ship	Between Groups	35.200	19	1.853	.829	.668
	Within Groups	254.621	114	2.234		
	Total	289.821	133			
Highest Educational Background	Between Groups	31.045	19	1.634	1.486	.104

Within Groups	125.343	114	1.100		
Total	156.388	133			

Table 16 shows that there is no significant difference on the shipboard training performance as perceived by the respondents when they were group according profile variables.

### 3.7 Significant Relationship between Quasi-Military Training and Shipboard Training Performance

Table 17: Significant Relationship between the Quasi-Military Training and Shipboard Training Performance of the Respondents

		Quasi-military Training Contribution	Shipboard Training Performance
Quasi-military Training Contribution	Pearson Correlation	1	.277**
	Sig. (2-tailed)		.001
	N	137	134
Shipboard Training Performance	Pearson Correlation	.277**	1
	Sig. (2-tailed)	.001	
	N	134	134

\*\* . Correlation is significant at the 0.01 level (2-tailed).

The Pearson-r test of significant relationship shows that there is relationship between the respondents' perception on quasi-military training contribution and shipboard training performance. The person-r correlation value .277 suggests moderately low positive correlation between quasi-military training contribution and shipboard training performance.

### 3.8 Significant Relationship between Academic Performance and Shipboard Training Competence

Table 18: Significant Relationship between the Quasi-Military Training and Shipboard Training Performance of the Respondents

		BSMT Average Academic Performance	Average Shipboard Training Performance
BSMT Average Academic Performance	Pearson Correlation	1	-.423**
	Sig. (2-tailed)		.001
	N	74	63
Average Shipboard Training Performance	Pearson Correlation	-.423**	1
	Sig. (2-tailed)	.001	
	N	63	63

\*\* . Correlation is significant at the 0.01 level (2-tailed).

The Pearson-r test of significant relationship shows that there is negative relationship between the BSMT-respondents' academic performance and shipboard training competence. The person-r correlation value -.423 suggests moderately low negative correlation between academic performance and shipboard competence.



Table 19: Significant Relationship between the Quasi-Military Training and Shipboard Training Performance of the Respondents

			BSMarE Average Academic Performance	Average Shipboard Training Performance
BSMarE Average Academic Performance		Pearson Correlation	1	-.216
		Sig. (2-tailed)		.090
		N	63	63
Average Shipboard Training Performance		Pearson Correlation	-.216	1
		Sig. (2-tailed)	.090	
		N	63	63

The Pearson-r test of significant relationship shows that there is negative relationship between the BSMarE-respondents' academic performance and shipboard training competence. The person-r correlation value  $-.216$  suggests very low negative correlation between academic performance and shipboard competence.

## 4.0 CONCLUSIONS

1. The overall performance of the BSMT-respondents is very good. BSMT-respondents exemplary shows knowledge and understanding in Operational Use of Radar/ARPA, Meteorology, and Oceanography as well as Deck Watchkeeping. Although still fall on the very good rating, the least performed, subjects include Trim and Stability, Cargo Handling and Stowage, and Celestial Navigation. The overall mean of final semestral rating of the academic performance of the respondents is 1.69 with a standard deviation of 1.36. Although the overall performance is very good, the skewness (-.181) and kurtosis (-.185) shows that the academic performance of the respondents is skewed to the left which means that majority of the students performed below the mean and the median score. The histogram shows extreme performances and a longer tail at the left of the curve. On the other hand, the academic performance of the BSMarE-respondents shows that the midshipmen/women' overall performance is also very good. BSMarE-respondents highly performed in Shop Safety, Hand and Power Tools, Watchkeeping with ERS and in Fabrication, Welding, Joining and Cutting. Similarly, even though fall on the very good rating, the least performed subjects of the BSMarE-respondents include Marine Automation, Electro Technology 2, and Auxiliary Machine Basic Construction, and Operating Principles, Preparation, and Fault Detection. The overall mean of final semestral rating of the academic performance of the respondents is 1.6529 with a standard deviation of 0.101. Although the skewness (-.052) still longer in the left tail it is much shorter than the skewness of the other group. Moreover, kurtosis (-.806) shows this group manifests higher extremities than the other. The kurtosis value reflects the extremities points above the

normal curve. Finally, performances of BSMarE group is closer than the BSMT group.

2. The life of the midshipmen/women vis-à-vis the contributions of the quasi-military training is defined in three (3) stages namely the probationary, the senior years (period after the probationary), and the shipboard training period. The probationary, the one-month indoctrination of the midshipmen/women agreed to be the hardest period and part of the quasi-military training. The Academy introduced a very different life to the aspiring seafarers during the transition period. It is a life of physical and mental struggles, routines, unending tasks and assignments, fear and excitements and unlimited challenges. After some time, after the probationary period, the midshipmen/women experiences gathered from the indoctrination made their life fulfilling. Eventually, the training molds the midshipmen/women to become more focused, goal-oriented, valued time and completely transformed them into a different person. Additionally, the respondents shared that the demand for physical and mental training in the Academy made them adaptable to various situations. This includes the development of unusual yet effective study habits. Respondents understanding of punishment and reward as part of the training honed them to think and act fast even under pressure which developed their decision-making and leadership skills, tougher, know how to prioritize task, accomplished task effectively, more disciplined, stable, and more importantly, give them a much brighter perspective in life. The third stage- - the shipboard training period, is the easiest stage of their training. Life onboard is fun and much pleasant. The quasi-military training provides resilient and good physical condition to the respondents- the PMMAer key to survival onboard. The high replicability of life on board with the life inside the Academy supports and exemplifies the adaptability of the midshipmen/women, thus, their significant performance is emphasized. In general, physical stamina, mental focus, decision-making skills, ability to work even under pressure and emergencies, proper values, respect to others, good communication skills, discipline, time management,

and obedience are among the traits honed in the Academy rooted in the quasi-military training provided.

The survey shows the strong agreement of the respondents on the contributions of the quasi-military training. More specifically, the respondents (both BSMT & BSMarE midshipmen/women) strongly agree that the training made them indifferent from other students, improved their safety awareness and orientation, enhanced their capability to handle critical situations, and taught the respondents how to plan, manage, and execute and accomplish task effectively. Moreover, the respondents least perceive the development of the teamwork, the increase of interpersonal skills, emergency and survival skills and divert focus to physical pursuits.

In the analysis of the responses of the group, the study found out that the quasi-military training was highly perceived by female respondents, ages 26-28, college graduate, and aboard on chemical tanker and bulk ships. On the other hand, respondents ages 23-25, high school graduate, aboard tanker ships least perceived the quasi-military training contribution. The cross tabulation above shows that from the perspective of the two groups-the BSMT and BSMarE, the quasi-military training contribution was highly perceived by the BSMT group.

3. Respondents perceive that they clearly understand the nature of the maritime profession, finish the job satisfactorily and accordingly and confidently apply the acquired maritime theories, knowledge, and skills in every task and assignment as outstanding. On the other hand, among the indicators, respondents perceive easily learn other things aside from the assigned task and function as very satisfactory. This was the least perceive shipboard training performance indicator which evident among the trainees from tanker ships. The analysis of responses revealed that female, ages 20-22, aboard a very large crude carrier, container ship, and bulk, college level highly perceive their shipboard training performance while the males ages 23-25 aboard chemical and tanker ship high school graduate least perceived

their shipboard training performance. The cross tabulation shows that shipboard performance of BSMT is higher than the BSMarE.

4. Based on the evaluation of the functions onboard, majority of the BSMT-respondents' competence in Cargo Handling and Stowage at the Operational level, Navigation at the Operational level and Controlling the Operation of the Ship and Care for Persons on board at the Operational fall below the group average or below the mean shipboard competence. In addition, an evidence of minimal extremities in terms of cargo handling and stowage is observed. On the other hand, BSMarE-respondents highly performed competency is marine engineering system at the operational level. This is followed by electrical, electronic, and control engineering at OIC level, controlling the operation of the Ship and Care for Persons Onboard at OIC level and lastly maintenance and repair at the Operational Level with an overall mean of 84.32. BSMarE competencies are very high in all functions. In general, the shipboard competence reflects normality of the data and the evidence of extremities is high.
5. There is significance difference on the BSMT-respondents' academic performance in term of sex, age, and type of ship. On the other hand, the analysis of variance shows that there is no significant difference on the BSMarE-respondents' academic performance when grouped according to profile.
6. There is no significant difference on the contribution of the quasi-military training as perceived by the respondents when they were group according to profile variables.
7. There is no significant difference in the shipboard training performance as perceived by the respondents when they were group according to profile variables.

8. There is a moderately low positive relationship between the respondents' perception on quasi-military training contribution and shipboard training performance.
9. There is a moderately low negative relationship between the BSMT-respondents' academic performance and shipboard training competence. There is a very low negative relationship between the BSMarE-respondents' academic performance and shipboard training competence.

## **5.0 RECOMMENDATIONS**

1. Regularly evaluate and strengthen the de-briefing program of the Department of Midshipmen Affairs to preempt the unnecessary negative build-up and unhealthy implications of the quasi-military training.
2. Assess and study the trends of the shipboard training program, specifically, the allocation of the trainees to the various shipping company. The equal distribution of trainees to the stakeholders may be considered.
3. In line with the low shipboard performance and competence of the respondent's on board tanker ships, the study strongly recommend to strengthen the curriculum or provide a specialized course on tanker ships and its operation.
4. The academy should improve the teaching and learning process on trim and stability, cargo handling and stowage, celestial navigation, marine automation, electro technology, and auxiliary machinery.
5. Strengthen the selection and hiring process of faculty members. Qualifications and sea service are indeed important, however, the Academy should employ personnel who are committed, diligent, and efficient.

6. The DST should regularly monitor the trainees' performances during shipboard training and cooperate with the partner shipping industry to constantly improved the shipboard training program of the PMMA.
7. The collaboration between the DST, DMA, Training Center, OAS-ATRE, OOS, and the Colleges are imperative to better understand, support, monitor and enhance the performance of midshipmen/women in academics, leadership and training, and shipboard training program.
8. Develop an assessment tool that can monitor and measure the implications of quasi-military training from indoctrination period to the shipboard training program.
9. Develop an effective and flexible mechanism that can address the issues and challenges of the evolving maritime curriculum to maintain the quality of education and achieve the desired educational outcomes.
10. Conduct a deeper study on the nature of work of deck and engine cadets and officers including their duties and responsibilities, decision-making, management skills, and performances (as applicable) to understand the gap identified in the study.
11. The Academy should conduct a separate study, which will assess the effectivity and applicability of the existing shipboard training program. The Academy may opt to implement the shipboard training program in the last year of the course to address the problems on the inadequacy of knowledge prior to shipboard training on some operations.
12. Conduct a deeper study on the identified contributions and implications of quasi-military training in the life and career of the PMMA alumni.

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## Appendix A: The Informed Consent Form



### INFORMED CONSENT TO PARTICIPATE IN RESEARCH

Dear Respondent,

Please accept my warm greetings.

My name is **Manny Isla Ching** and I am a student at **World Maritime University (WMU)** and currently conducting a study entitled **“Quasi-Military Experience, Academic Competence, and Shipboard Training Performance of Future Maritime Officers: Understanding the PMMA Context of Maritime Education and Training”**.

I am inviting you to participate in this research effort.

#### **Informed Consent**

This document provides with the complete details of the study. Please take a time to read the following information and clarify any questions you may have. I will discuss with you the details of the study and the procedures involved. After considering thoroughly all the information presented to you, you may decide if you want to participate in this study or not. However, please take note that I may need your duly signed consent in order for you to participate in this study.

#### *Purpose of the Study*

You are hereby invited to participate in a study which aims to describe and present the quasi-military experience, academic competence, and shipboard training

performance of the PMMA cadets/cadets to better understand the PMMA context of Maritime Education and Training (MET).

#### *Respondents of the Study*

This study will include randomly selected BSMT and BSMarE graduating students of PMMA who:

1. completely finished the course academic requirements;
2. finished the shipboard training program; and
3. are willing to give informed consent.

#### *Data Collection Procedure*

If you decided to participate in this study and successfully meet the criteria, informed consent will be obtained. You will be asked to accomplish diligently a survey questionnaire that consists of four (4) parts. In the first part, you will be asked to secure information of your demographic profile such as age, sex, course, type of ship during shipboard training, and highest educational background prior to entry to Academy. In the second part, you will be asked to provide us your academic performance in selected subjects. The third part will gather your perception on the contribution of the quasi-military training provided by the PMMA in your shipboard training. The last part will gather your perception on your performance during the shipboard training program.

#### *Risks and Benefits*

There are no known risks in participating in this study. There are no direct benefits, either, other than your contribution to knowledge. I will not be giving any remuneration for your participation since the study involves only collection of information for knowledge sake.

#### *Participation*

Your participation in this study is voluntary. When you have decided to participate but later wish to withdraw participation, you are also free to do so. However, please inform the researcher as soonest as possible about your decision.

### *Confidentiality*

There are some items in this questionnaire that you find sensitive, but please be assured that the information you give will be treated with complete anonymity and confidentiality by means of discrete coding. Only the researcher will have access to the questionnaires and any information that is obtained from this study. The data gathered will only be used to answer the objectives of this study. You may have access to your own data and the results of this study.

### *Publication*

The results of the study may be submitted for publication. The study may be presented in a scientific forum or published in a journal, but in a manner whereby your identity will not be revealed.

### *Safekeeping and Disposal of Data*

The data collected from the conduct of study will be properly archived and will remain to be the accountability of the researcher until such time that the study was completely finished and approved by the university research committee. Safekeeping will be the researcher's responsibility. Disposal of data will be done after the publication of the results.

### *Funding*

I am personally funding this study. This study is my dissertation paper.

### *Authorship*

I am the only author of this study.

### *Conflict of Interest*

I declare no conflict of interest.

### *Contact Details of the Researcher*

If you have any concerns or questions, please free to contact me at **09193497453**.

**Consent**

I have read and understood the information part of this form. By signing this form, I hereby consent to participate in this study.

---

Signature over Printed Name of the Respondent

I certify that I have explained the purpose and procedures of this study to the participant. I have answered questions that were raised, and have witnessed the above signature.

---

Manny Isla Ching  
Researcher

---

Date

## Appendix B: The Survey Instrument



### Quasi-Military Experience, Academic Competence, and Shipboard Training Performance of Future Maritime Officers: Understanding the PMMA Context of Maritime Education and Training

#### SURVEY

*Directions: Kindly fill in the information requested on the items below and put a check mark (/) on the blank provided for each items that corresponds to your perception to the indicators using the scales provided. Please do not leave any unanswered question.*

#### Profile of the Respondents

Age:

\_\_\_ 17-19

\_\_\_ 23-25

\_\_\_ 20-22

\_\_\_ 26-28

Sex:

\_\_\_ Male

\_\_\_ Female

Course:

\_\_\_ BSMT

\_\_\_ BSMarE

Type of Ship during Shipboard Training:

\_\_\_ General Cargo Vessel

\_\_\_ Chemical Tanker

Very Large Crude Carrier                       Bulk Carrier  
 Specialized Cargo Vessel                       Other/s:  
 Container Ship                      Please specify: \_\_\_\_\_

Highest Educational Background prior to PMMA Entry:

High school graduate  
 High school graduate with technical-vocational course  
 College level  
 College graduate

**Respondent's Academic Competence**

Kindly provide your final academic rating in the following subjects.

For BSMT-Respondent

No :	Subject Code	Subject Description	Academic Rating
1	Nav 1	Terrestrial and Coastal Navigation 1	
2	Seam 1	Ship, Ship Routines and Ships Construction	
3	Nav 2	Terrestrial and Coastal Navigation 2	
4	Nav 3	Celestial Navigation	
5	Dwatch 1	Collision Regulations (COLREGS)	
6	Dwatch 2	Deckwatchkeeping	
7	Met-O 1	Meteorology and Oceanography 1	
8	Nav 4	Navigation Instruments w/compasses	
9	Seam 2	Cargo Handling and Stowage	
10	MarCom	Maritime Communications	
11	Seam 4	Dangerous Goods and Inspection	
12	MarLaw	Maritime Law	



13	Seam 2A	Trim, stability and stress	
14	Nav 5	Operational Use of Radar/ARPA	
15	Marpower	Basic Marine Engineering	
16	Nav 6	Operational Use of ECDIS	
17	Nav 7	Voyage Planning	
18	Seam 2B	Trim, Stability, and stress	
19	Met-O 2	Meteorology and Oceanography 2	
20	Seam 5	Ship Handling and Maneuvering	

For BSMarE-Respondent

No :	Subject Code	Subject Description	Academic Rating
1	MaShop 1	Shop Safety, Hand & Power Tools	
2	Naval Archi. 1	Ships Routine and Seamanship	
3	Electro Tech. 1	Electro Technology (Basic Electricity)	
4	MaShop 2	Machine Tool	
5	Protect Mar Env	Marine Pollution & Prevention (Annex I-6)	
6	Aux Mach 1	Auxiliary Machine Basic Construction & Operating Principles	
7	Electro. Tech. 2	Electro Technology (Marine motor/Generator)	
8	MaShop 3	Fabrication, Welding, Joining & Cutting	
9	Naval Archi. 2	Ships Construction and Stability	
10	Electro. Tech. 3	Application of Marine Electronic System	
11	EWatch	Watchkeeping with ERS (Operational	

		Level)	
12	Marine Ref.& AC	Marine Refrigeration, Air Condition & Ventilation Sys	
13	MPS1	Marine Steam Propulsion System	
14	Tribology	Industrial Chemicals (Fuel Oil & Lubricants)	
15	Aux Mach 2	Preparation, operation and fault detection	
16	Fluid Power	Pneumatics / Hydraulics System	
17	Marine Auto 1	Instrumentation and Controlling Elements	
18	MarLaw	Maritime Law	
19	Mechanics	Mechanics and Hydromechanics	
20	MPS 2	Marine Diesel and Electric Propulsion System	
21	Security Awareness	Security Awareness (ISPS)	
22	Maint & Repair	Shipboard Maintenance and Repair	
23	Marine Auto 2	Automation Control and Application with PLC	
24	MPS 3	Tri-fuel Diesel and Gas Turbine Propulsion	

### **Respondent's Perception on the Contribution of the Quasi-Military Experience**

Kindly provide your insights toward the contribution of the military training to you and to your maritime career. Use the five-point Likert scale provided below to show your level of agreement for each indicator.

- 5 Strongly Agree
- 4 Moderately Agree
- 3 Agree
- 2 Disagree

1 Strongly Disagree

Quasi-military Experience Contribution Indicator	5	4	3	2	1
1. The academy's common core made me more discipline and increased my self-control.					
2. The academy's common core enhanced my capability to handle critical situations.					
3. The military training taught me to become apathetic. *					
4. The military training I had received prepared me for the life onboard.					
5. The military training enhanced my decision-making skills.					
6. The military training diverted my focus to physical pursuits only.*					
7. The military training taught me how to use my resources (e.g. time, effort, attention, etc. ) properly.					
8. The military training taught me how to plan, manage, and execute task effectively.					
9. The military training made me indifferent form other normal students.*					
10. The military training prepared me to live life and do task under pressure.					
11. The military training developed my skills in working with team/s and increased positive relationship with others.					
12. The military training participation restricted my academic activities.*					
13. The military training taught me how to identify, manage, and provide solutions to problems and conflicts.					
14. The military training improved my safety and security awareness and orientation.					
15. The military training taught how to become detached from my family. *					
16. The military training developed and increased my sense of					

responsibility.					
17. The military training enhanced my emergency and survival skills.					
18. The military training developed my focus, attentiveness, and cautiousness.					

### Shipboard Training Performance

Kindly honestly provide your self-assessment rating toward you shipboard training performance onboard. Use the five-point Likert scale provided below to show your performance for each indicator.

- 5 Outstanding
- 4 Very Satisfactory
- 3 Satisfactory
- 2 Fair
- 1 Poor

Shipboard Training Performance Indicators	5	4	3	2	1
1. (I) clearly understand the nature of the maritime profession.					
2. (I) positively and confidently accept tasks assigned onboard.					
3. (I) confidently apply the acquired maritime theories, knowledge, and skills in every task and assignment.					
4. (I) freely communicate with immediate supervisor for clarifications and questions regarding task and assignment.					
5. (I) can easily mingle and communicate with multi-cultural crew onboard.					
6. (I) can stand the pressure and the rigid nature of work and perform the task positively.					
7. (I) develop resourcefulness and innovatively adapt to any given task.					
8. (I) can easily participate in a team/group to finish a job.					
9. (I) finish the job satisfactorily and accordingly.					
10. (I) can freely and positively accept criticism, comments, and					

suggestions from supervisor/s and other member/s of the crew.					
11. (I) can easily learn other things aside from assigned task and function.					
12. (I) work with a minimal supervision onboard.					
13. I work with pride, integrity, and quality.					

### Shipboard Training Function Performance

Please honestly rate your performance during your shipboard training onboard on the functions identify below using the following scales:

- 5 Outstanding
- 4 Very Satisfactory
- 3 Satisfactory
- 2 Fair
- 1 Poor

Shipboard Training Functions for BSMT	5	4	3	2	1
Navigation at the Operational Level					
Cargo Handling and Stowage at the Operational Level					
Controlling the Operation of the Ship and Care for Persons onboard at the Operational Level					

Shipboard Training Functions for BSMarE	5	4	3	2	1
Marine Engineering System at the Operational Level					
Electrical, Electronic, and Control Engineering at OIC Level					
Maintenance and Repair at the Operational Level					
Controlling the Operation of the Ship and Care for Persons onboard at OIC Level					

*Thank You for Participating!*

### Appendix C: Interview Guide for Unstructured Interview

<b>Qualitative Processing Worksheet</b>			
No:	Question/s	Participant's Response/s	Researcher's Notes
1	Tell me about yourself. (e.g. your name, age, your current employment, and position)		
2	When did you start your seafaring career? How long have you been a seafarer?		
3	What was it like being a probationary midshipman/woman?		
4	What were the implications of the quasi-military training on your academics?		
5	How do you deal or cope up with the implications of the training on your academics?		
6	Your shipboard training is your initial seafaring experience, how do you describe your shipboard training?		
7	Is military training beneficial to your shipboard training? Kindly cite at least three (3) most benefits of military training onboard.		
8	In your present position now, can you still claim the benefits of military training? Kindly give at least (3) situations where background in military training serves its purpose to your seafaring career.		

**Appendix D: Shipboard Training Competence Worksheet  
(based on the Assessment Form of Incoming 1CI)**

<b>Deck Cadet Evaluation</b>					
Deck Cadet: Juan Dela Cruz			Sea Time:		
Class of: 2017			Date		
			Reported to		
			DST:		
Subject	Oral	CBT	Sea Project	Final Grade	Final Average Grade
F1- Navigation at the Operational Level					
F2- Cargo Handling & Stowage at the Operational Level					
F3- Controlling the Operation of the Ship & Care of Persons Onboard at the OIC Level					

<b>Engine Cadet Evaluation</b>					
Engine Cadet: Juan Dela Cruz			Sea Time:		
Class of: 2017			Date		
			Reported to		
			DST:		
Subject	Oral	CBT	Sea Project	Final Grade	Final Average Grade
F1- Marine Engineering at the Operational Level					
F2- Electrical, Electronics and					

Control Engineering at OIC Level					
F3- Maintenance and Repair at the Operational Level					
F4- Controlling Engine Operation and Care for Persons Onboard at OIC Level					

### Appendix E: Final Semestral Rating in Selected Subject

Academic Performance of Deck Cadet in BSMT Selected Subjects		
Engine Cadet: Class of: 2017		
No:	Subject/s	Final Semestral Rating
1	Trim, Stability and Stress 1	
2	Trim, Stability and Stress 2	
3	Cargo Handling and Stowage	
4	Celestial Navigation	
5	Meteorology and Oceanography 2	
6	Ship Handling and Maneuvering	
7	Terrestrial and Coastal Navigation 2	
8	Terrestrial and Coastal Navigation	
9	Voyage Planning	
10	Operational Use of ECDIS	
11	Collision Regulations	
12	Navigation Instruments w/Compasses	
13	Ship, Ship Routines and Ship Construction	
14	Dangerous Goods and Inspection	
15	Deckwatchkeeping	
16	Meteorology and Oceanography 1	
17	Operational Use of Radar/ARPA	



Academic Performance of Engine Cadet in BSMarE Selected Subjects

Engine Cadet:

Class of: 2017

No:	Subject/s	Final Semestral Rating
1	Marine Automation	
2	Electro Technology	
3	Auxiliary Machine Basic Construction, and Operating Principles , Preparation, and Fault Detection	
4	Machine Tool	
5	Shipboard Maintenance and Repair	
6	Application of Marine Electronic System	
7	Naval Architecture	
8	Electro Technology	
9	Fabrication, Welding, Joining & Cutting	
10	Watch keeping with ERS	
11	Shop Safety, Hand & Power Tools	

**Appendix F: Descriptive Statistics of the Respondents in terms of Profile**

**Sex**

	Frequency	Percent	Valid Percent	Cumulative Percent
Male	125	91.2	91.2	91.2
Valid Female	12	8.8	8.8	100.0
Total	137	100.0	100.0	

**Course**

	Frequency	Percent	Valid Percent	Cumulative Percent
BSMarE	69	50.4	50.4	50.4
Valid BSMT	68	49.6	49.6	100.0
Total	137	100.0	100.0	

**Age**

	Frequency	Percent	Valid Percent	Cumulative Percent
20-22	103	75.2	75.2	75.2
Valid 23-25	30	21.9	21.9	97.1
26-28	4	2.9	2.9	100.0
Total	137	100.0	100.0	

### Type of Ship

	Frequency	Percent	Valid Percent	Cumulative Percent
General Cargo Vessel	3	2.2	2.2	2.2
Very Large Crude Carrier	1	.7	.7	2.9
Container Ship	20	14.6	14.6	17.5
Valid Cargo Vessel	1	.7	.7	18.2
Tanker	16	11.7	11.7	29.9
Bulk Ship	80	58.4	58.4	88.3
Others	16	11.7	11.7	100.0
Total	137	100.0	100.0	

### Highest Educational Background

	Frequency	Percent	Valid Percent	Cumulative Percent
High School Graduate	80	58.4	58.4	58.4
High School Graduate with Tech-Voc	7	5.1	5.1	63.5
Valid College Level	38	27.7	27.7	91.2
College Graduate	12	8.8	8.8	100.0
Total	137	100.0	100.0	

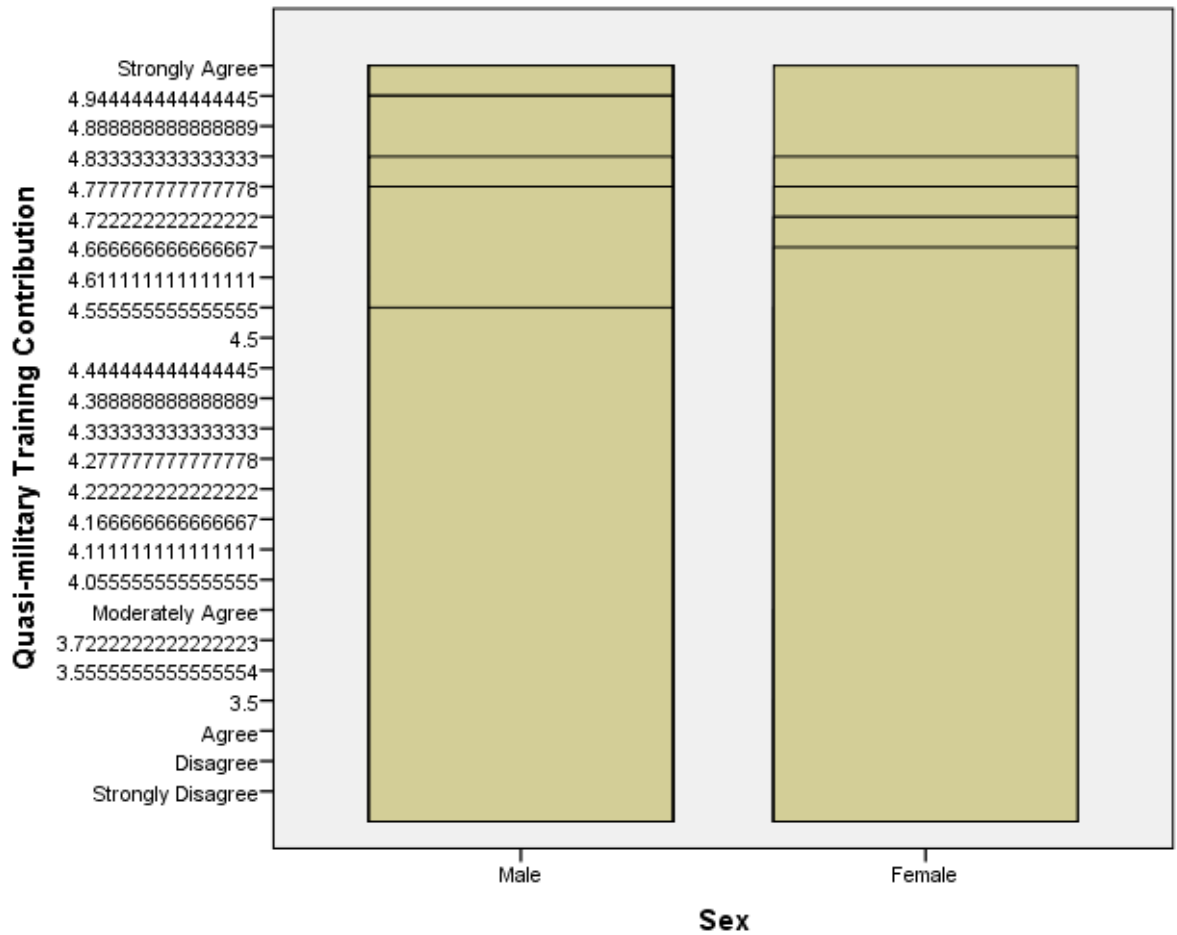
### Descriptive Statistics

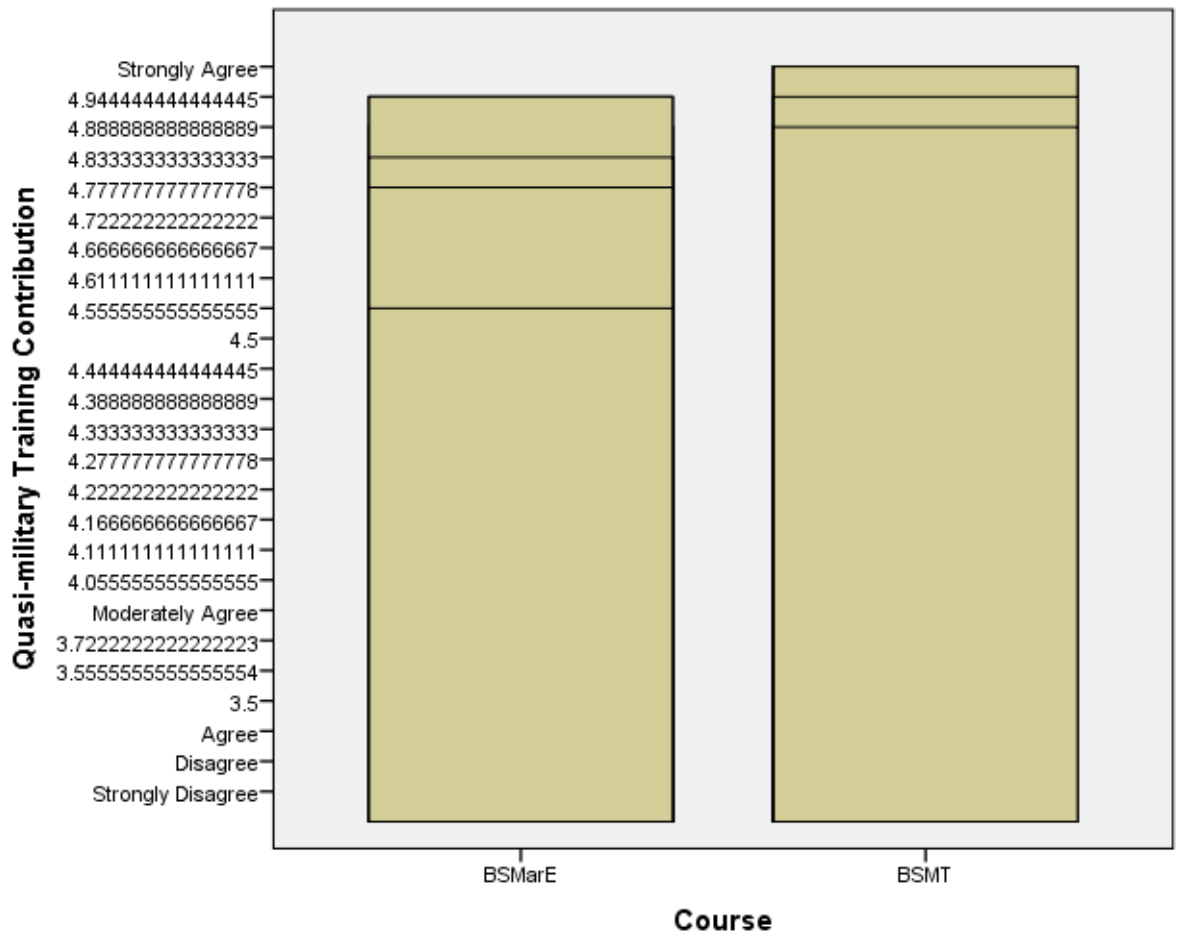
	N	Minimum	Maximum	Mean	Std. Deviation
Sex	137	1.00	2.00	1.0876	.28374
Course	137	1.00	2.00	1.4964	.50182
Age	137	2.00	4.00	2.2774	.51062
Type of Ship	137	1.00	8.00	6.3796	1.47594
Highest Educational Background	137	1.00	4.00	1.8686	1.09690
Valid N (listwise)	137				

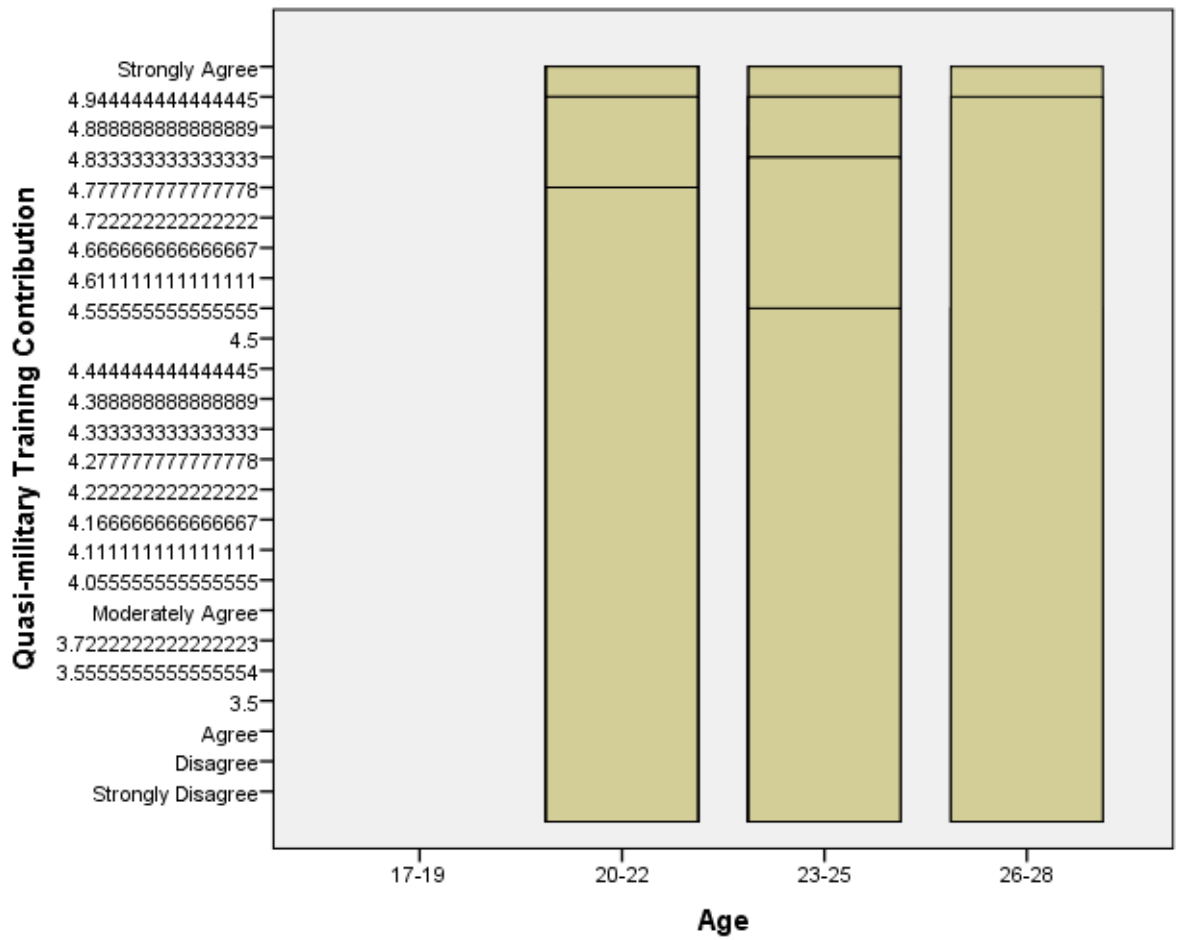
### Statistics

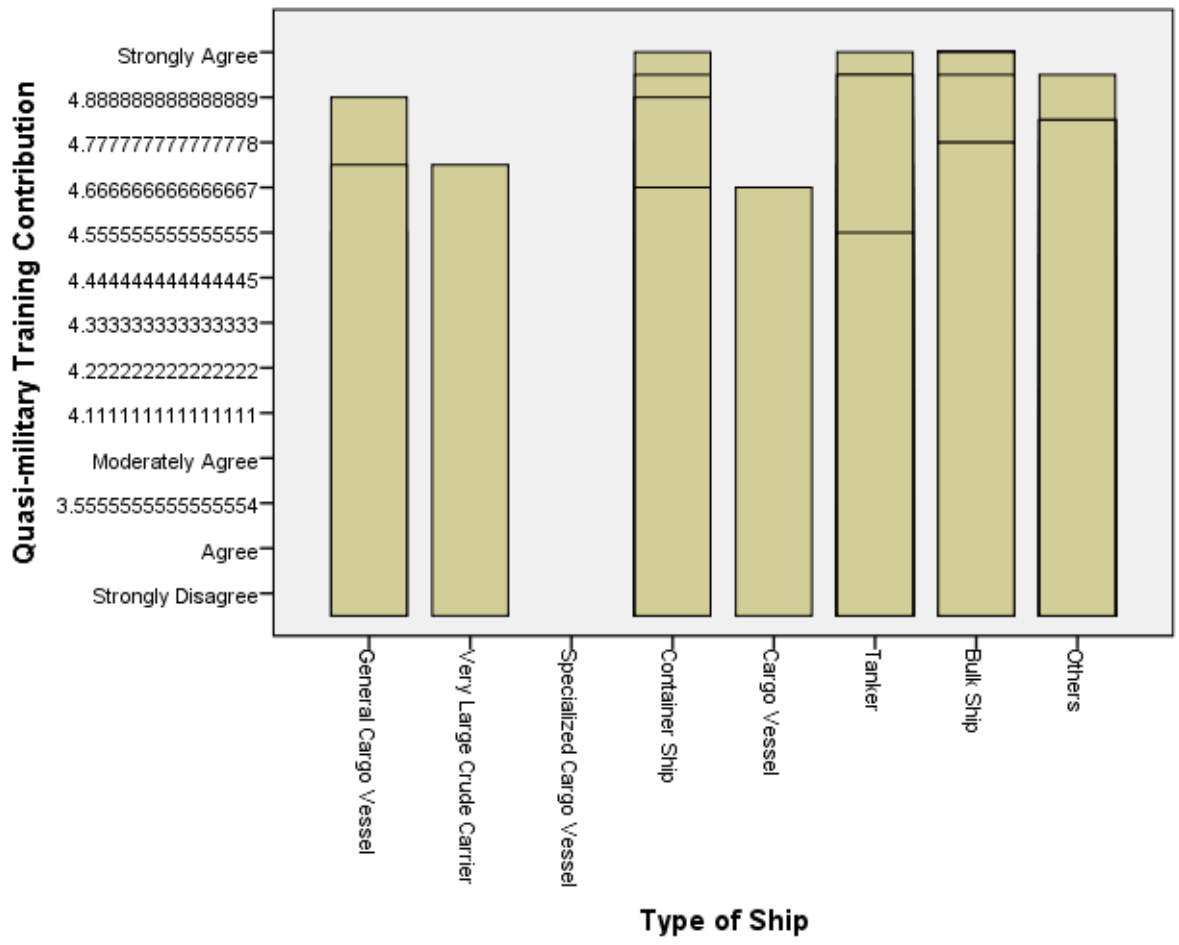
	Sex	Course	Age	Type of Ship	Highest Educational Background
N Valid	137	137	137	137	137
N Missing	0	0	0	0	0
Mean	1.0876	1.4964	2.2774	6.3796	1.8686
Median	1.0000	1.0000	2.0000	7.0000	1.0000
Mode	1.00	1.00	2.00	7.00	1.00
Std. Deviation	.28374	.50182	.51062	1.47594	1.09690

**Appendix H: Quasi-Military Contribution as Perceived by the Respondents by Profile**

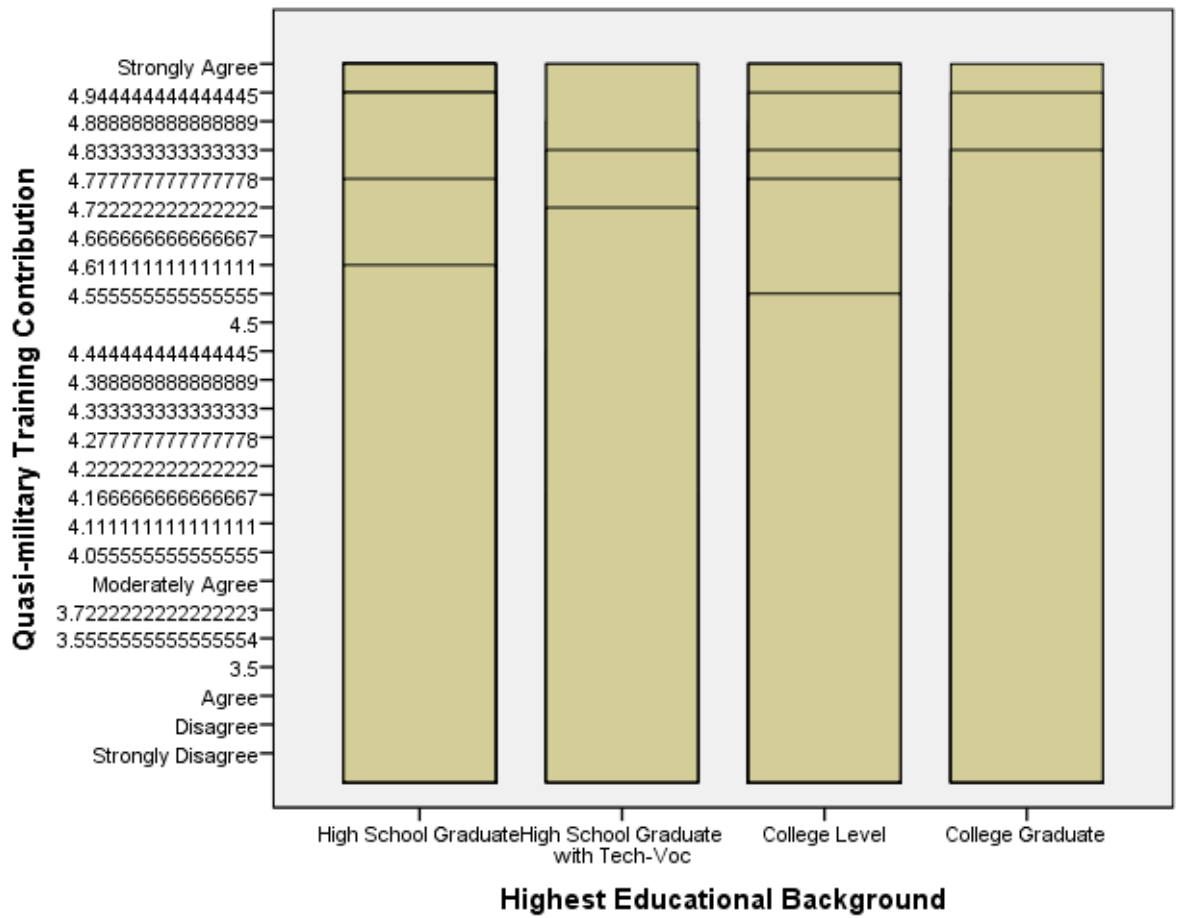




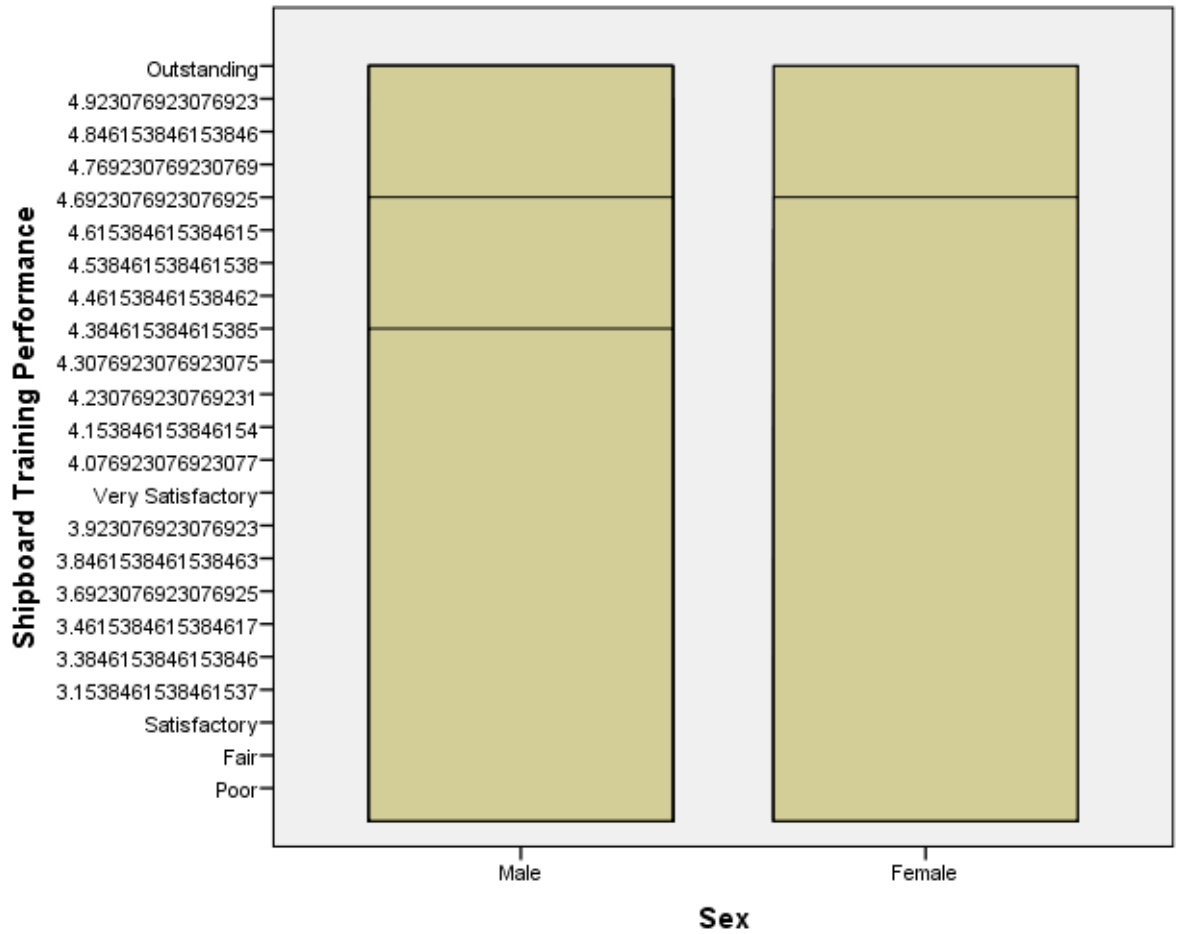


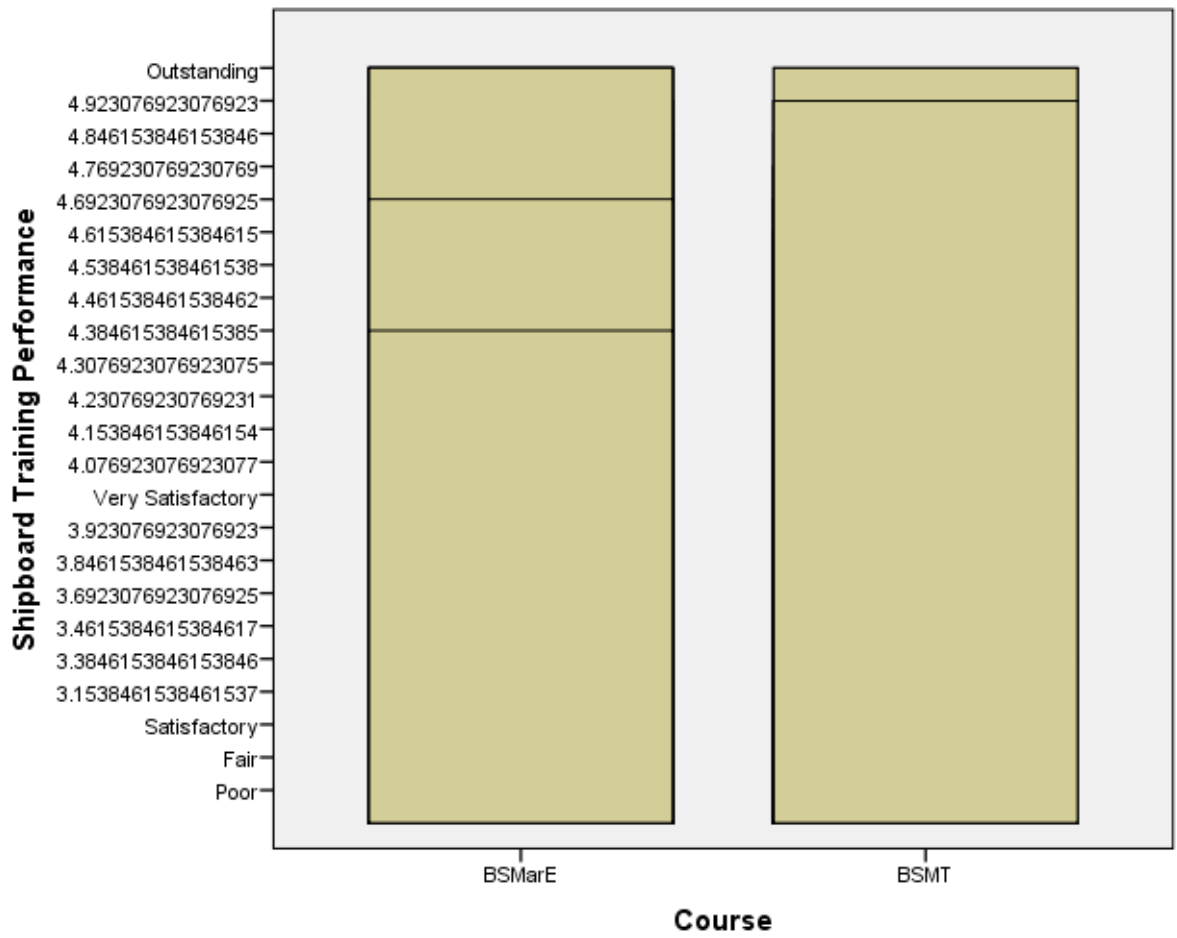


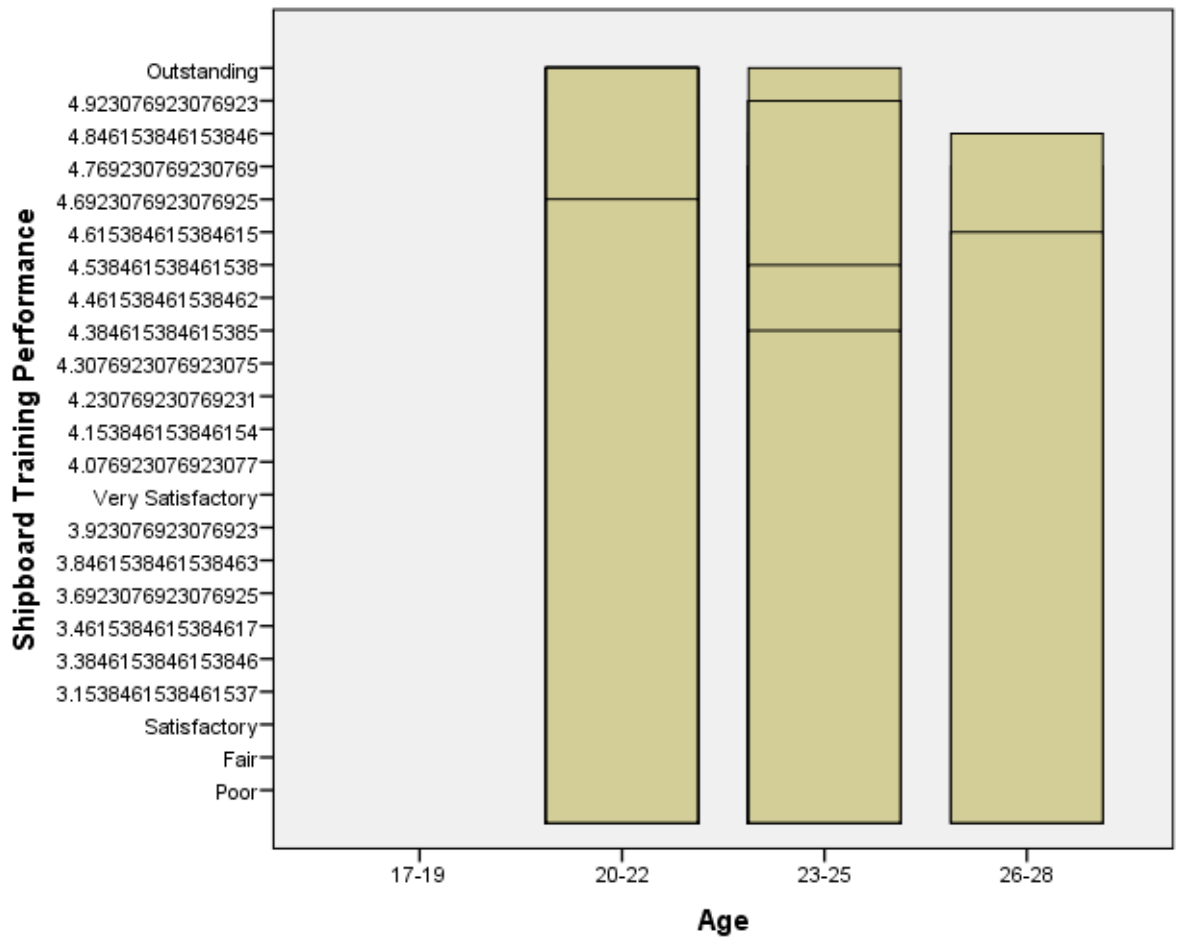


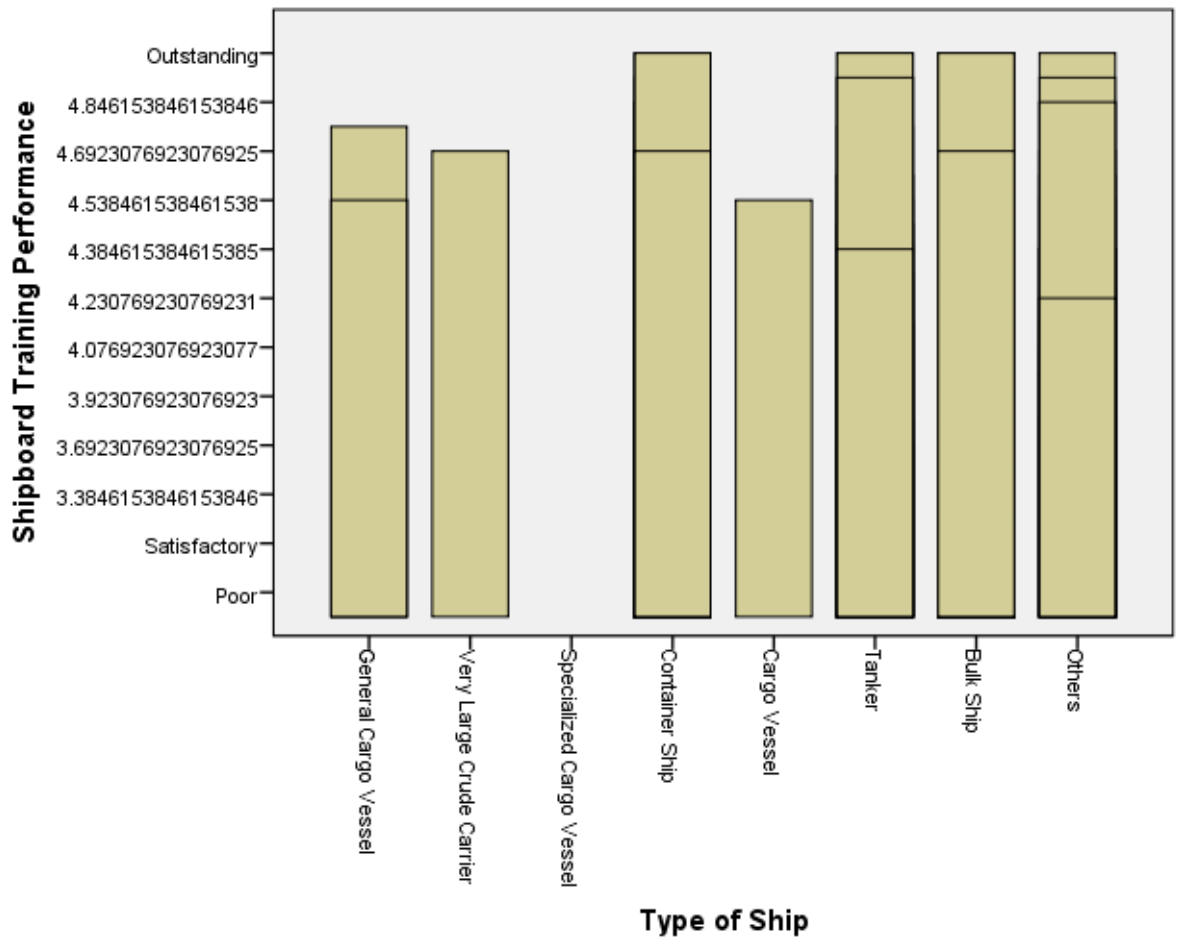


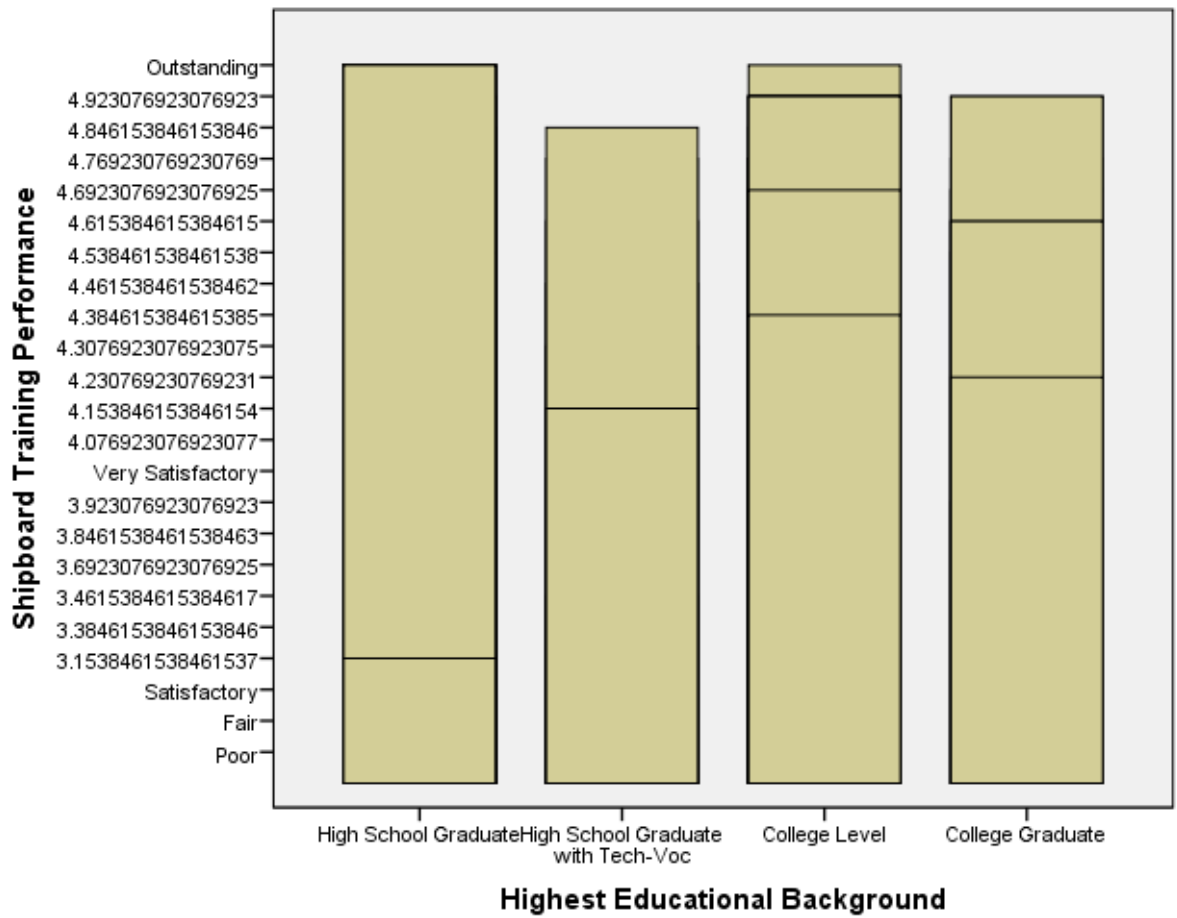
**Appendix I: Shipboard Training Performance as Perceived by the Respondents by Profile**











**Appendix J: Significance Difference on the BSMT-Respondents' Shipboard Training Competence in term of Shipboard Training Program Functions when grouped according to Profile**

		Sum of Squares	df	Mean Square	F	Sig.
Sex	Between Groups	6.222	62	.100	.	.
	Within Groups	.000	0	.	.	.
	Total	6.222	62			
Age	Between Groups	12.889	62	.208	.	.
	Within Groups	.000	0	.	.	.
	Total	12.889	62			
Type of Ship	Between Groups	166.603	62	2.687	.	.
	Within Groups	.000	0	.	.	.
	Total	166.603	62			
Highest Educational Background	Between Groups	68.413	62	1.103	.	.
	Within Groups	.000	0	.	.	.
	Total	68.413	62			

**Appendix K: Significance Difference on the BSMarE-Respondents' Shipboard Training Competence in term of Shipboard Training Program Functions when grouped according to Profile**

		Sum of Squares	df	Mean Square	F	Sig.
Sex	Between Groups	4.603	62	.074	.	.
	Within Groups	.000	0	.	.	.
	Total	4.603	62			
Age	Between Groups	17.270	62	.279	.	.
	Within Groups	.000	0	.	.	.
	Total	17.270	62			
Type of Ship	Between Groups	84.000	62	1.355	.	.
	Within Groups	.000	0	.	.	.
	Total	84.000	62			
Highest Educational Background	Between Groups	76.857	62	1.240	.	.
	Within Groups	.000	0	.	.	.
	Total	76.857	62			