



Graduate Tracer Study of the Bachelor of Science in Marine Transportation at the Maritime Academy of Asia and the Pacific

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Abstract: *For continual improvement, this research aimed to obtain feedback from graduates of Bachelor of Science in Marine Transportation (BSMT) and make the program more responsive to the needs of the industry. A MAAP-customized graduate tracer survey was used to generate data from graduates in 2003 to 2012. SPSS was employed to calculate statistics such as frequency counts, percentage, and Chi square analysis and Cramer's V. Results showed that the respondents are generally satisfied with the study provisions and conditions that MAAP provides. Skills and knowledge gained from the Academy were also deemed to be very relevant to jobs; most especially critical thinking and managerial/leadership. With respect to employment, all of the respondents are currently employed; 49% on-board ships and 51% toggle between sea-based and maritime land-based jobs. Majority of them obtained their first seagoing jobs through the Academy's placement office. Most of the alumni were able to board their first vessel after graduation in nine (9) months or less, mostly as cadets while others as operational level officers and ratings. Moreover, profile variables such as age, sex, year graduated, OIC licensure examination performance, and study provisions and conditions are significantly associated with some areas of employability. Further, relevance of knowledge and skills is significantly associated with waiting time before first seagoing job and professional success as a mariner. Specifically, theoretical and managerial/leadership are most related to their professional success. This study recommends further studies and development programs to enhance relevant study provisions and conditions and knowledge and skills.*

Keywords: *Employability, graduate tracer study, BSMT.*

1. Introduction

Over the years, the Philippines has been recognized as the manning capital of the world, supplying over 25% of the world's maritime fleet. In 2010, the BIMCO/ISF Manpower

Update reports a notable increase in manpower supply from the Philippines along with other Far East countries.

Seafaring as a profession is still very attractive and provides gainful employment to many Filipinos and no doubt immensely contributes to the economy (Francisco, 2005). In fact, Peña (2000) quoted maritime education as a "winner course" because graduates of this program are readily acceptable for employment abroad. However, the extent to which these graduates remain competitive, considering the increasing global maritime demands, is the accountability of quality education (Ramirez, 2001). While employability revolves primarily around individual's characteristics, personal circumstances and external factors in the labor market, education plays a key role in the ability of graduates to gain and maintain employment (Kabir, 2014).

Recently, the maritime higher education institutions (MHEIs) and maritime education and training institutions (METIs) are faced with issues on the quality and competitiveness of their graduates. Also, BIMCO stressed the importance of well qualified and high caliber seafarers capable of adapting to change and handling a wide range of tasks now required of their profession in the shipping industry.

The success of the Philippine maritime manpower industry largely depends on the quality of maritime education and training. Maritime schools need to reconsider their mission of preparing their students for the seafaring profession in the light of changes in the local and international markets; new knowledge and skills to adapt to changing job demands; and dealing with an increasingly

competitive international maritime labor pool. They should work closely with the other maritime stakeholders – the industry leaders, government agencies, and the seafarers themselves to improve their ability to produce graduates who are potential officers of the highest caliber. (Magsaysay-Ho, 2005).

In the light of ensuring relevant, efficient and quality maritime education and training as a key to increasing competitiveness in the international shipping industry, the Maritime Academy of Asia and the Pacific (MAAP) pursues graduate tracer studies, impact analysis tools, that aim to assess the employability of its graduates. This is conducted to get valuable information for the development of the school, to evaluate the relevance of higher education, to contribute to the accreditation process and to inform students, parents, teachers and administrators (Schomburg, 2003)

As a maritime higher education institution, MAAP aims to ensure the employability of its graduates in the world shipping business. To this end, an employability analysis of the ten (10) batches of graduates from the academy is being worked on. This study gathered relevant data which will be used to devise measures or programs for the continual quality improvement of the curriculum to ensure that students are well-prepared to face the challenges of the seafaring profession.

1.1. Statement of the problem

The study primarily aims to address the following question: “How may the personal and educational variables affect the employability status of the graduates of Bachelor of Science in Marine Transportation (BSMT) at the Maritime Academy of Asia and the Pacific (MAAP), Mariveles, Bataan from 2003 to 2012.”

Specifically, the study aims to answer the following questions:

1. What is the profile of the respondents in terms of the following:
 - 1.1 Personal Variables: Sex, Age, Civil Status, Religion, Urbanity (location), Dialect, and Region or origin; and
 - 1.2 Educational Variables: Year of graduation; OIC licensure examination performance; Reasons for taking the course; Adequacy of

educational preparation before college, and; Study provisions and study conditions experienced?

2. How do the respondents perceive the relevance of the skills and knowledge acquired at MAAP to their respective job?
3. How may the status of employability of the respondents be described in terms of the following:
 - 3.1 Current occupation;
 - 3.2 Approaches in getting first seagoing jobs;
 - 3.3 Waiting time on first seagoing job placement after graduation;
 - 3.4 Average length of service per embarkation;
 - 3.5 Initial Position held on-board
 - 3.6 Present Position/s held on-board;
 - 3.7 Current license/rank;
 - 3.8 Initial gross monthly salary in the first job;
 - 3.9 Present salary;
 - 3.10 Reasons for staying on the job, and;
 - 3.11 Professional Success?
4. Are there personal profile variables that are significantly associated with the status of employability of respondents?
5. Is there a significant relationship between the educational profile variables and the employability status of the respondents?
6. Is there a significant relationship between the relevance of skills and knowledge acquired from the academy and the status of employability of the respondents?

1.2. Significance of the study

Institutionally, the management could utilize the results of the study in formulating development plans or curriculum revisions to better improve the quality of maritime education and training that the academy provides. They will be better equipped with key labor market information and employability of graduates needed for improving the degree program. Further, the tracing of graduates might help establish co-operation/contacts between the academy and the alumni who may help evaluate the relevance of the BSMT program and contribute to the accreditation process. Perceptions of graduates towards the effectiveness of the academic programs, infrastructure, services and administrative

systems of the institution of learning are useful for the industry.

Indirectly, the maritime industry would benefit from the result of the study as the cooperation between the maritime education and shipping industry sectors would ensure that quality and competent graduates are absorbed by the industry. Hence, lesser problems or concerns when it comes to the competence of officers and accidents due to human error can be minimized. The shipping managers/owners would be ascertained of the quality of maritime deck and engine officers that they would be hiring to man their international vessels.

Also, the maritime students, who are the future marine deck and engine officers, would benefit from the study as the results would guide them to better prepare for the industry where they would be engaging in. Awareness of the knowledge and skills required on board would prompt the students to be more studious to ascertain their job placement and lifelong career as seafarers.

On the other hand, the findings of this study will provide a relevant reference for other researchers interested in working on the employability of graduates, particularly maritime graduates.

1.3. Scope and delimitation

The study is focused on the employability analysis of the first 10 batches of MAAP BSMT graduates or alumni. This study utilized a graduate tracer survey accomplished by the class of 2003 to class 2012 respondents through personal interview, letters, e-mails, or other electronic means. This study is limited to available MAAP alumni who responded to the request of the researcher within the time frame, during the Academic Year 2014-2015.

1.4. Literature review

Graduate employability. Employability is defined as “a set of skills, knowledge and personal attributes that make an individual more likely to secure and be successful in their chosen occupation for their own benefit, the workforce, the community and the economy” (Moreland, 2006). In securing a job, a graduate must be equipped with most of the skills desired by the employer and the ability to participate and

contribute to the knowledge economy by applying what they learned in higher education and also improve their social standing and the country's economy (Paadi, 2014).

One of the major concerns of higher education institutions today is connecting education and employability. To better understand these concepts, the researcher draws on various theories about the impact of education in connection with graduate employability. One of these theories is the human capital theory that argues that education provides productive skills to individuals. With respect education, this theory posits that education provides knowledge and skills that have a direct influence on the productivity of workers (Becker, 2002). Nevertheless, it must be noted that employability is the product of a complex mixture of different factors located in the labor market, in universities, in the recruitment procedures of businesses, in the economic policies implemented by the government and in the personal/social characteristics of individual graduates (Smetherham, 2003).

Maritime Education and Training. Maritime stakeholders are actively involved in the whole process of improving Filipino standards in the maritime industry. As MET providers, maritime institutions should refocus their programs towards developing more officer caliber cadets/cadetesses with the necessary technical and social skills needed in the industry and develop seafarers who possess what the international shipping community tagged as STCW skills (San Pedro, 2009).

Maambong (2008) studied the perceptions and compliance among maritime schools of the policies, standards and guidelines for maritime education in the Philippines. He suggested various vital basis for the future improvement and development of the maritime curricula to CHED as the government agency tasked to supervise both public and private higher education institutions. He also said that it is high time for the maritime schools and their assessors and faculty to realize that failure to comply with STCW and CHED requirements on the proper implementation of the competency-based curriculum would be reasons for the delay of the

completion of the baccalaureate maritime program.

1.5 Conceptual framework

Figure 1 demonstrates the research paradigm of the study.

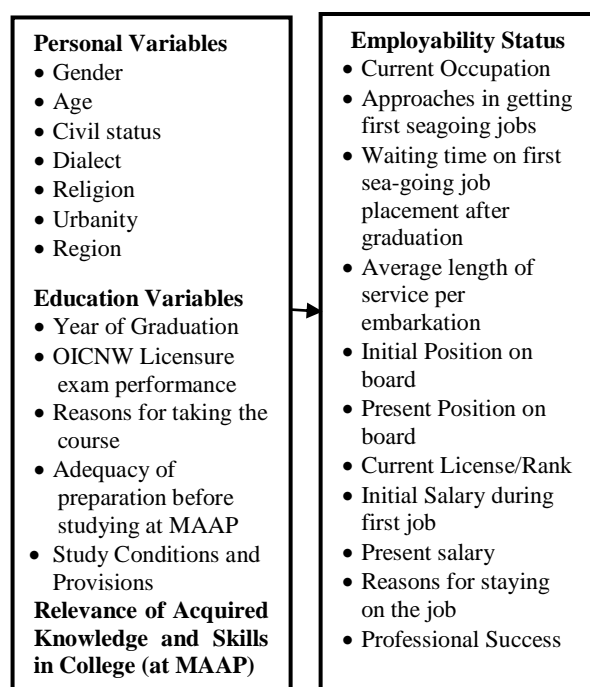


Figure 1. Research Paradigm

The research paradigm shows that the BSMT graduates, manifested personal and educational variables relevant to their employment status. This study conceptualized the existence of association among the personal and educational variables, relevance of acquired knowledge and skills in college, and employability status of graduates. Personal variables include gender, age, civil status, dialect, religion, urbanity and region of origin, while educational variables consist of Officer in Charge of Navigational Watch (OIC-NW) licensure examination performance, reasons for taking the course, adequacy of preparation before studying at MAAP, and study conditions and provisions experienced.

On the other hand, employability indicators include current occupation, approaches in getting first seagoing jobs, waiting time on first seagoing job placement after graduation, average length of service per embarkation, initial position held on-board; present position

held on-board, current license/rank, initial gross monthly salary in the first job; present salary, reasons for staying on the job, and professional success.

1.6. Hypotheses of the study

The following hypotheses were formulated:

1. There are no significant relationships among the personal variables and the employability status of the respondents;
2. There are no significant relationships among the educational variables and the employability status of the respondents, and;
3. There are no significant relationships between the relevance of knowledge and skills acquired at MAAP and the graduates' employability status.

2. Methodology

This study used descriptive design as it describes the events that happened and characteristics of the alumni of MAAP during the study period. It utilizes the descriptive-survey approach where a survey questionnaire was used to gather feedback from the respondent. It also utilized correlation design to determine the existence of relationships among certain variables such as the profile variables and those relating to employability status of the responding alumni.

The respondents of this study were 100 Bachelor of Science in Marine Transportation (BSMT) graduates from the year 2003 to 2012, the first ten (10) batches produced by MAAP.

The primary research instrument utilized in this study is a structured questionnaire, adapted from the CHED graduate tracer survey form, involving questions on personal and performance background, employability status, and opinions on the relevance of education acquired to the respondent's jobs.

Data gathering for this study was carried out by the MAAP Alumni Office which is responsible in tracking the whereabouts of the graduates. The questionnaires were sent to the respondents via email, which is a convenient and fast way of communication. Respondents were also able to respond to the questionnaire

during the Annual MAAP Alumni Parade. However, due to the difficulty of reaching graduates who are mostly abroad or on-board vessels, only 100 respondents were obtained after an extended data gathering period during the Academic Year 2014-2015.

The data collected were encoded and statistically analyzed using the statistical software called SPSS version 18. Statistical tools such as frequency, percentage, and mean were used depending on the nature of the data. Chi square analysis and Cramer's V were used to analyze relationships of nominal variables such as profile variables and some employability status variables like occupation. Based on Rea & Parker (2014), Cramer's V coefficient is interpreted such that a value below 0.10 indicates a negligible association; 0.10 to 0.19 weak association; 0.20 to 0.39 moderate association; 0.40 to 0.59 relatively strong association; 0.60 to 0.79 strong association, and; 0.80 to 1.00 very strong association. Correlation analysis was also utilized. In interpretation correlation coefficients, this study utilized the following (Garcia, et. al., 2011):

Value	Interpretation (Relationship)
$\pm 0.90 - \pm 1.00$	Very high correlation; Very significant
$\pm 0.70 - \pm 0.89$	High correlation; Significant
$\pm 0.40 - \pm 0.69$	Moderate correlation; Average
$\pm 0.20 - \pm 0.39$	Low correlation; Small
0.19 and below	Very low correlation; Almost none

3. Results

3.1 Profile of the respondents

3.1.1 Personal Profiles

Fifty two percent (52%) of the respondents are 30 to 34 years of age, 39% are 24 to 29 years old and 9% is 35 to 39 years old. The majority or 95% of them are males while only five percent (5%) are females. With respect to civil status, 58% are still single while 41% are married.

In terms of religious affiliation, the majority or 86% of the respondents are Catholics while 14% are Protestants such as Born Again, Christian sects, Anglican, Baptist, and Presbyterian.

With respect to the dialect, majority or 65% of the respondents are Tagalog while the other

35% use their native languages across the country such as Cebuano, Ilocano, Kapampangan, Ilonggo, Bisaya, Hiligaynon, Kankanaey (a Cordilleran dialect), Ivatan, Pangasinan and foreign languages (German and Indonesian).

As regards the urbanity of the respondents, 59% claimed that they grew in the cities or urban areas while 41% in municipalities or rural areas. As reflected in Table 2, it can be surmised that the alumni respondents came from varied regions across the country. The top region is Central Luzon (Region III) with 26% of the respondents; followed by CALABARZON (Region IV-A) with 20% and then National Capital Region (NCR) with 12%.

3.1.2 Educational Experience

The educational experience includes variables such as year of graduation, reasons for taking the BSMT course, adequacy of educational preparation before entering college, problems encountered while studying at MAAP, study provisions and conditions, PRC OIC-Navigational Watch Licensure Examination performance, and reasons for pursuing advanced education.

Year of graduation. All the classes are represented. Fifty nine percent (59%) of the respondents are graduates of the first five classes of MAAP (Class 2003 to Class 2007) while 41% are from the second five classes who graduated from 2008 to 2012.

Reasons for taking the course. The top reason cited by the alumni for taking BSMT at MAAP is scholarship as mentioned by 68% of the respondents. This is followed by prospect for immediate employment with 44% of the respondents. Next is influenced by parents/relatives (40%) and then prospect of attractive compensation (36%). It is presumed that economics is a major reason for taking BSMT course, but they are also concerned with getting better prospect for employment and career opportunities.

Adequacy of Educational Preparation before Entering the Course. When asked if the educational preparation of the respondents are adequate before taking up BSMT, 83% claimed that it is adequate, nine percent (9%) not adequate, and eight percent (8%) uncertain.

Problems Encountered While Studying at MAAP. Twenty four percent (24%) of the respondents claimed that they have no problem encountered with studying at MAAP while 38% did not respond to this question. Most problems mentioned are experienced during the early stage of their schooling where they are still adjusting to their new environment and the semi-regimented/leadership scheme with rigorous academic programs. Homesickness was listed as the top problem encountered by the students, especially during their first year level. This is followed by food and water. Since the students are housed inside and MAAP is providing for their meals, students do not have the luxury of eating the food they are used to or food they wanted to eat. It is only after their fourth class year that students are allowed to buy from the slop chest or from the ASTC canteen, though choices are also limited. The respondents also mentioned academics-related problems. One problem mentioned is the lack of practical applications since they have limited use of the simulators and other facilities. One respondent also mentioned problem having to cope with general education courses such as Filipino and Social Science instead of focusing on maritime education courses. Other problems encountered by the respondents are related to their semi-regimented training, time management/pressure, sponsorship, and personal or family matters.

Study Provisions and Study Conditions Experienced. It can be noted that alumni from Classes 2008 to 2012 provided relatively higher ratings compared to the first five (5) batches. However, both of these groups provided the highest mean rating of 4.36 and 4.73, respectively, on the length of study in the academy.

For the first five (5) batches of respondents, the next highest mean rating of 4.32 is testing/grading system; followed by contact with fellow students (with mean of 4.29) and then teaching quality of lecturers/teachers (with mean of 4.25). On the other hand, their lowest mean of 3.98 is on chances to participate in research and extension projects. Nonetheless, the alumni of Classes 2003 to 2005 provided good ratings on all the study provisions and conditions in Table 5.

For the alumni of classes 2008 to 2012 (second five-batches), study provisions and conditions such as the length of study in the academy (4.73), course content of major subject (4.63), design/structure of degree program (4.58), and contact with fellow students (4.58) are considered very good.

Overall, length of study in the academy obtained the highest total mean of 4.51 (very good) while the lowest total mean of 4.02 (good) on chances to participate in research and extension projects.

Further, the younger graduates are more satisfied with their overall experience at the academy as indicated by their mean of 4.55 compared to those older ones with 4.32. Statistically, both groups have good overall study provisions and conditions by composite means of 4.21 for graduates of 2003 to 2007 and 4.45 for graduates from 2008 to 2012.

OIC-Navigational Watchkeeping licensure examination performance. With respect to PRC licensure examination, the majority or 86% of the respondents has passed their first attempt at getting OIC-Navigational Watch license. As shown in Table 6, 56% of the respondents obtained 70 to 79% passing rate while 30% got 80 to 90% passing rate. Twelve percent (12%) of the respondents were not able to pass their first PRC take but were able to eventually pass after another one or more attempts.

Training(s)/Advance Studies Attended After College. Maritime graduates or even long time maritime professionals are compelled to pursue advanced studies if they wanted to continue their career on-board international vessels. Seafarers are mandated to comply with international standards such as the requirements brought about by the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers (STCW). Also, the BIMCO/ISF Manpower 2010 Update, a recognized and credible report in the maritime world, stressed the importance of well qualified and high caliber seafarers capable of adapting to change and handling wide range of tasks now required of their profession in the shipping industry. Thus, MAAP alumni are compelled to pursue advanced studies through maritime

trainings in various accredited maritime training agencies for professional development and promotion.

3.2. Relevance of Knowledge and Skills Acquired at MAAP in Jobs

The respondents, as a whole, considered the skills and knowledge they gained from MAAP to be very relevant, having a total composite mean of 4.56. The respondents provided the highest total mean of 4.63 on critical thinking, and then managerial/leadership with 4.62, indicating very relevant. Their lowest total mean of 4.44 is on theoretical knowledge and skills which is considered relevant.

Specifically, for the first five (5) batches of graduates, human relations knowledge and skills obtained the highest mean relevance of 4.61 (very relevant) while the lowest mean of 4.31 is on theoretical knowledge and skills. As shown, knowledge and skills in human relations, managerial/leadership, communication, and critical thinking are very relevant while technical, theoretical and problem solving are only relevant.

For the second five (5) batches of graduates, all of the knowledge and skills are very relevant to the jobs of the respondents, most especially critical thinking with the highest mean of 4.78 and then managerial/leadership with a mean of 4.68. On the contrary, the lowest mean of 4.60 is on human relations knowledge and skills, although this suggests high relevance to respective jobs.

3.3. Status of employability of the graduates

Employment here means any type of work performed or services rendered in exchange for compensation under a contract of hire which create the employer and employee relations. From the deck alumni surveyed, 98% are currently employed while two percent (2%) are employed but on vacation.

Occupation of Seafarers. Forty nine percent (49%) of the deck alumni are currently working on-board ships; 40% are in toggling between sea-based jobs and maritime land-based jobs such as a training or shipping managers in shipping companies and training centers, and;

11% are instructors or facilitators in maritime schools or training centers.

When asked if their first job is related to the course they took up in college, 100% of the respondents claimed that these are related as they have taken jobs in the maritime industry. While not all may be working on-board, all of them are engaged in the industry, particularly in the maritime education and training sector and in the recruitment/manning agencies.

When asked if their current job is their first job after college, 35% answered yes and 23% said no while others did not respond to this question.

Approaches in Getting First Seagoing Job Placements. The majority or 74% of the Alumni obtained their first seagoing job with the help of the school's job placement office – the Department of Shipboard Training (DST). Also, 12% reported that they were able to obtain first employment as walk in applicants; 12% as recommended by someone, and three percent (3%) through family business.

Waiting time on first seagoing job placement after graduation. Twenty five percent of the alumni were able to board their first vessel after graduation in less than three (3) months after graduation, 19% for three (3) to six (6) months, and 23% for six (6) to nine (9) months. Also, 20% were able to board their first vessel after nine (9) to 12 months while nine percent (9%) waited for over a year. It can be surmised that 67% of the respondents were able to board their first vessel up to nine (9) months while 29% for over that period. This result is better compared to the AIMS tracer study for its alumni for 1994-1995 to 2003-2004 where 67% have waiting time of at least one (1) year after graduation and 24% who reached up to two (2) years of waiting before getting a job (Paderanga, 2009).

Average Length of Service Per Embarkation. Forty six percent (46%) of the respondents have an average length of service per embarkation of seven (7) to nine (9) months while 25% for five (5) to six (6) months. Only nine percent (9%) have an average seagoing contract of less than five (5) months while 13% for over nine (9) months to one (1) year.

Initial and Present Positions Held in Board. On their first seagoing contract after graduation, only 17% reported that they boarded their vessels as operational level officers. Most or 72% of them claimed that they boarded as cadets while 11% as ratings.

In their present positions during the survey period, the majority or 82% of the respondents were already operational level officers, 17% were management level officers, and only one percent (1%) was a rating.

Considering their initial position, 81% of the alumni who initially boarded their vessels as cadets are operational level officers while 19% are now management level officers. For those who initially boarded their vessels as ratings, 82% are now operational level officers and nine percent (9%) are now management level officers. For those who started as operational level officers, 94% are still operational level officers who are probably second officers while only six percent (6%) are management level officers.

Current license/rank. 41% of the respondents are management level officers (Chief Mate and Captain) while 51% of them are operational level officers (third and second mates).

Initial and Present Gross Monthly Earnings as Seafarers. In terms of initial pay on first seagoing career, a majority or 65% of the alumni claimed that they boarded as cadets. Twenty three percent (23%) have an initial pay of \$1,000 to \$2,000 while 12% earned \$2,001 to \$4,000. Their initial pay is estimated to be an average of \$1,010.

With respect to present pay, a rough average of \$3,600 can be estimated. Four (4) of the 100 respondents are still earning below \$1,000. These respondents have taken land-based jobs which are way below their usual pay on board ships. Also, four percent (4%) are earning \$1,000 to \$2,000 while 21% are receiving salaries of \$ 2,001 to \$3,000. Moreover, 41% are getting \$3,001 to \$4,000 while 30% are receiving over \$4,000.

It can be surmised that most or 91% of the alumni have increased earnings from their first seagoing contract to present while nine percent (9%) decreased. These respondents have opted to get land-based jobs to be with their families and/or to rest from their usual seafaring practice even with lower salaries.

Reasons for Staying on the Job. The majority or 72% of the respondents are staying in their jobs because of salaries and benefits. The second most cited reason is career challenge which is mentioned by 49% of the respondents and the third one is related to course or program of study which is according to 36%. The other reasons include related to special skill, proximity to residence, peer influence, and family influence.

Professional Success. For the alumni of classes 2003 to 2007, the composite mean of 3.94 suggests that they are satisfied with the different dimensions of their professions. They are most satisfied with job prestige having the highest mean of 4.12, and then followed by salary with a mean of 4.05. Their lowest mean rating of 3.68 is on awards and recognition and then on fringe benefits with a mean of 3.86.

For the alumni of classes 2008 to 2012, their highest mean rating of 4.21 is on their work tasks. This is followed by job prestige with a mean of 4.15. On the other hand, their lowest mean of 3.60 is also on awards and recognition and then work environment with a mean of 3.92.

As a whole, the respondents are satisfied with all the dimensions of their profession as suggested by the mean ratings reflected in Table 15. The respondents are most satisfied with respect to job prestige having a total composite mean of 4.13; followed by work tasks with a mean of 4.09. In contrast, they are least satisfied with awards and recognition with a total composite mean of 3.65 and fringe benefit with a mean of 3.93.

3.4. Personal profile variables and status of employability

Age group is significantly associated with the current occupation of the respondents as suggested by the significant chi square value of 10.64. Also, Cramer's V value of 0.33 suggests a moderate association between these variables. To a moderate extent, younger seafarers tend to

continue to take sea-based work while older ones for alternating seagoing and land based jobs and full land based jobs.

Also, sex is associated with the current occupation of the respondents as suggested by the chi-square value of 12.92 significant at 0.002 as well as the Cramer's V Coefficient of 0.36 which is also significant at 0.002. This coefficient suggests a moderate association. When the crosstabulation of data was analyzed, it was found that more males opt to work on purely sea-based jobs while more women tend to work land based jobs or shifting between sea and land based occupations.

On the other hand, age and waiting time before first seagoing job are significantly associated as indicated by the chi square value of 9.12 significant at 0.03. The Cramer's V coefficient of 0.31 implies moderate association. To a moderate extent, younger respondents have a longer period of time waiting before boarding their first vessels compared to the older ones. Forty four percent (44%) of the respondents who are 24 to 29 years old has waited for nine (9) months or longer before their first seagoing contract while 21% of those who are aging from 30 to 39 years old have also waited for the same period of time. Also, 34% of the respondents who are in their 20s have six (6) months or less waiting time while 54% of those who are in their 30s also have the same six (6) months or less waiting before first embarkation.

Similarly, age is significantly associated with the initial job level as implied by the significant chi square value of 9.89. The Cramer's V coefficient of 0.31 suggests a moderate association. More of the older respondents started out as ratings while more of the younger ones boarded their first vessels as operational level officers. Likewise, age is significantly related to license/rank having a chi square value of 12.87 significant at 0.005 and significant Cramer's V coefficient of 0.37. This also suggests a moderate association.

The other profile variables are not associated with status of employability in terms of occupation, waiting time before first seagoing job, initial job level, and level/rank of the respondents.

Also, the profile variables such as age, sex, civil status, religion, region, and urbanity are not significantly associated with the specific areas of employability such as average length of embarkation, present job level, initial and present salaries, and perceived professional success as seafarers.

In a tracer study on maritime graduates at the Asian Institute of Maritime Studies, Paderanga (2007) found that the employability of graduates in terms of waiting time for job after graduation and after filing of application does not depend on the alumni's personal attributes or having a seaman father, but on other factors such as, skills and knowledge acquired from the school, previous work experience, character/attitude, reputation of the school from which the graduate obtained his degree and the demand of the labor industry.

3.5. Educational variables and status of respondent's employability

The class of the respondents is associated with their present occupation based on the significant chi square value of 10.66 and the moderate Cramer's V coefficient of 0.33. From the crosstabulation of variables, it can be noted that the proportion of alumni who are still active purely in seagoing jobs is greater for classes 2008 to 2012 compared to classes 2003 to 2007. In contrast, more alumni from classes 2003 to 2007 toggle between sea-based and land-based maritime jobs compared to those of classes 2008 to 2012.

Further, the significant chi square value of 12.50 and Cramer's V coefficient of 0.36 suggests a moderate relationship between the year graduated and waiting time before the first seagoing job. More proportion of the respondents from class 2008 to 2012 have waiting time of nine (9) months or longer compared to those from class 2003 to 2007 which waited for the same period of time before boarding international vessels.

Similarly, year graduated is significantly associated with both initial and present job levels as suggested by the significant chi square and Cramer's V coefficient.

Moreover, year graduated is significantly related to the license of the respondents as

suggested by the significant chi square value of 15.00 and relatively strong Cramer's V coefficient of 0.40. More proportions of the respondents from classes 2003 to 2007 are of higher ranks/licenses (management level) while more respondents from classes 2008 to 2012 are of lesser ranks/licenses (operational level).

On the other hand, year graduated is not significantly associated with average length of embarkation, initial and present salaries, and perceived professional success as suggested by the not significant chi square values and negligible Cramer's V coefficients.

Only occupation is significantly associated with the OIC licensure performance of the respondents. This is indicated by the chi square value of 4.01 significant at 0.05 and the Cramer's V coefficient of 0.20. This suggests a moderate relation wherein to a moderate extent, a more proportion of those who initially failed the licensure examination are working on land-based jobs while more percentage of those who passed are toggling between land and sea-based jobs.

Study provisions and conditions experienced is significantly associated with waiting time before first sea-going job and perceived professional success while it is not significantly related to the other aspects of employability.

As shown, the p-value associated with chi square value of 5.98 is significant for the dependent variable - waiting time before first sea-going job. This relationship is considered to be moderate as suggested by the Cramer's V coefficient of 0.25. When the crosstabulation was analyzed, it was found that more proportion of respondents who have a lower rating for their study provisions and conditions at MAAP were able to board six (6) months or less while more percentage of those with a higher rating for their study provisions and conditions were able to board their first vessel after over six (6) months.

Interestingly, study provisions and conditions is significantly associated with perceived professional success as indicated by the chi-square value of 27.45. The Cramer's V coefficient of 0.53 suggests a relatively strong association between these variables. The majority of the respondents with lower

perceived professional success have lower study provisions and conditions experienced while most of those with very high professional success have very good ratings on their study provisions and conditions.

The result suggests that study provisions and conditions at MAAP are significant in the employability of the graduates, particularly in terms of waiting before first seagoing career and professional success. This coincides with the findings of Paderanga (2007) where the traditional role of the school of equipping its students with adequate and appropriate knowledge, skills, and competencies are important components of the employability of its graduates.

Relevance of knowledge and skills obtained in college is only significantly associated with waiting time before the first seagoing job and with professional success as a navigator. Waiting time is moderately associated with relevance of knowledge and skills as indicated by the Cramer's V coefficient of 0.35. Also, there is a moderate relationship between the relevance of knowledge and skills to professional success of the respondents as suggested by the Cramer's V coefficient of 0.39. The majority of the respondents who have excellent professional success considered their knowledge and skills to be very relevant in their professions.

Using Spearman Rho correlation analysis, it can be confirmed that the mean perception of the respondents on the relevance of knowledge and skills acquired at MAAP is moderately related to the professional success of the respondents having a correlation coefficient of 0.46. In a tracer study conducted in Kenya, knowledge, attitudes and skills acquired during the study at the university is associated with their present jobs (Kimani, 2002).

With respect to the specific areas, although theoretical knowledge and skills is the least relevant to jobs, it seems to be the most related to professional success having a moderate correlation coefficient of 0.43. This is followed by managerial/leadership knowledge and skills with a correlation coefficient of 0.42, and then communication, knowledge and skills with a correlation coefficient of 0.40.

On the other hand, the least correlated areas with professional success are human relations and problem solving knowledge and skills, both with low correlation coefficients of 0.34.

4. Discussions

4.1. Summary and Conclusions

In terms of personal profile, the majority of the respondents are males with age ranging from 24 to 39. Fifty eight percent are single and 41% are married. The majority of them are Tagalogs and Roman Catholics. Also, 59% are from urban areas while 41% hail from rural areas. Almost all of the regions in the country are represented by the respondents.

With respect to their educational experience at MAAP, 59% of the respondents represents the first five (5) classes (2003 to 2007) and 41% from the second five (5) graduates (2008 to 2012) of the academy. The top reasons cited by the alumni for taking BSMT at MAAP are scholarship and prospect for immediate employment. The majority of them claimed that they have adequate educational preparation before taking up BSMT. In terms of study provisions and conditions, the respondents are most satisfied with their length of study in the academy while least satisfied on chances to participate in research and extension projects. The majority of them have passed their first attempt at getting OIC-Navigational Watch license. Moreover, MAAP alumni undergo various maritime trainings after graduation for professional development and promotion.

On the other hand, the respondents considered the skills and knowledge they gained from MAAP to be very relevant to their jobs. They considered critical thinking and then managerial/leadership as the most relevant areas while theoretical knowledge and skills are the least.

In terms of employability, 98% of the deck alumni are currently employed while two percent (2%) is employed but on vacation. Forty nine percent (49%) of them are currently working on-board ships; 40% are in toggling between sea-based and maritime land-based jobs such as a training or shipping managers in shipping companies and training centers, and; 11% as instructors or facilitators in maritime

schools or training centers. With respect to getting their first seagoing job, the majority of the Alumni obtained their first seagoing job with the help of the school's job placement office – the Department of Shipboard Training (DST). Sixty seven percent (67%) of the alumni were able to board their first vessel after graduation in less than three (3) months to nine (9) months after graduation while 29% for over nine months. On their first seagoing contract after graduation, 72% cited that they have boarded their ships as cadets, 17% as operational level officers and 11% as ratings. At present, 82% of them are already operational level officers, 17% management level officers, and only one percent (1%) rating. Their initial pay is estimated to be an average of \$1,010 while their current salary is roughly an average of \$3,600.00. In terms of license, 41% of the respondents are management level officers (Chief Mate and Captain) while 51% of them are operational level officers (third and second mates). Overall, the respondents considered themselves professionally successful most especially in terms of job prestige and work task and least on awards and recognition and fringe benefit.

With respect to the relationship of personal profiles and status of employability, age is moderately associated with occupation, waiting time before first seagoing job, initial job level, and license. Sex is also moderately associated with the occupation of the respondents.

On the relationship of educational variables and status of respondent's employability, year graduated is significantly associated with occupation, waiting time before first seagoing job, initial and present job levels, and current license/rank. The OIC licensure examination performance is also moderately associated with the occupation of the respondents. Moreover, study provisions and conditions are significantly associated with waiting time before first seagoing job, license, and professional success.

Further, the perceived relevance of knowledge and skills of the respondents is moderately and significantly associated with waiting time before first seagoing job and professional success as a mariner. Specifically, theoretical and managerial/leadership

knowledge and skills are most related with their professional success.

4.2. Recommendations

In the light of the findings of this study, the following are recommended.

1. Strengthen involvement of students in research and extension projects as part of their study provisions and conditions.
2. Enhance the critical thinking and management/leadership knowledge and skills of the students as the graduates considered these to be the most relevant to their jobs. The theoretical aspect of student learning should also be improved to make it more relevant to their profession.
3. While OIC licensure examination performance is also moderately associated with occupation, further study should be conducted on these variables considering the new examination system by the Maritime Industry Authority (MARINA).
4. Maritime schools should provide more focus on the study provisions and conditions that they are providing to their students, especially that this is significantly related to the graduates' employability more particularly on professional success.
5. Closer attention should be provided for the enhancement of knowledge and skills, especially theoretical and managerial/ leadership, of the students as this is significantly associated with waiting time before first seagoing job and professional success.
6. Validate the research findings to ensure solid ground in recommending measures for improvement in the academy. A study should include more respondents and additional variables such as academic performance and values.
7. Conduct further study on the interrelationship of the different aspects of employability of the graduates specifically on their professional success.

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Tracing Bachelor of Science in Marine Engineering Graduates of the Maritime Academy of Asia and the Pacific

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Abstract: *Graduates are one of the best sources of vital information on how the curriculum being offered by an institution is faring. Likewise, they help in strengthening the system of their institute and developing further the services of those institutions to ensure responsiveness and competitiveness in the global market. These vital pieces of information provided by the graduates are obtained and appropriately categorized and interpreted through graduate tracer studies. Tracer studies help in collecting relevant information that helps the institutions know where their graduates are, particularly their employment status. Moreover, tracer studies help in determining other factors that might affect the employability of the graduates. In this context, this project was undertaken to determine the status of the Bachelor of Marine Engineering graduates of the Maritime Academy of Asia and the Pacific from 2003-2012. In particular, it aims to describe the effect of the personal and educational variables on the employability of MAAP BSMarE alumni. Using survey forms, the marine engineering graduates of MAAP were found to be employed. Most of these graduates had their employment through the job placement office of MAAP. Moreover, the respondents started working less than three months to 12 months after graduation as officers in charge of the engine watchkeeping. Finally, these respondents think that all the knowledge and skills provided by the Academy are relevant to their present job with the technical skills having the highest relevance.*

Keywords: *employability status, MAAP engineering graduates*

1. Introduction

Employability of graduates is the primary aim of any higher educational institution (HEI).

It is for this concern that these educational institutes design their curricula and decide on the knowledge and skills to be developed. In considering employability, HEIs need to account for the global and local market, the specific requirements of each program offered and the process of enabling the students to acquire the knowledge and skills required by the two. According to Yorke (2001) and Knight and Yorke (2001) as cited by Lees (2002), employability has two main concepts, and these are the acquisition of the graduates of the necessary knowledge and skills to be employed and their ability to get a job. Also, the graduates' knowledge and skills must match the employers' expectation of contribution for "effective functioning of their organization" (Harvey, 1997 as cited by Lees, 2002).

One of the most common and probably the most effective way to determine the status of graduates and the relationship of their educational training with their employment status is the graduate tracer studies.

Since 2003, when the first batch of the Maritime Academy of Asia and the Pacific (MAAP) graduated, no documentation has been carried to track the whereabouts of these graduates; hence the conceptualization of this endeavor. This paper primarily aims to profile the Marine Engineering graduates of MAAP from 2003-2012 and at the same time, assess the relevance of their training, and knowledge and skills to their present job.

1.1. Statement of the Problem

The study primarily aims to address how the personal and educational variables may affect the employability status of the graduates of Bachelor of Science in Marine Engineering (BSMarE) at the Maritime Academy of Asia and the Pacific (MAAP), Mariveles, Bataan from 2003 to 2012.

Specifically, the study aims to answer the following questions:

1. What is the profile of the respondents considering the following:
 - 1.1 Personal Variables: Sex, Age, Civil Status, Religion, Urbanity (location), Dialect, and Region or origin; and
 - 1.2 Educational Variables: Year of graduation; OIC licensure examination performance; Reasons for taking the course; Adequacy of educational preparation before college, and; Study provisions and study conditions experienced?
2. How do the respondents perceive the relevance of the skills and knowledge acquired at MAAP in their respective job?
3. How may the status of employability of the respondents be described considering the following:
 - 3.1 Current occupation;
 - 3.2 Approaches to getting first seagoing jobs;
 - 3.3 Waiting time on first seagoing job placement after graduation;
 - 3.4 Average length of service per embarkation;
 - 3.5 Initial Position held on board
 - 3.6 Present Position/s held on board;
 - 3.7 Current license/rank;
 - 3.8 Initial gross monthly salary in the first job;
 - 3.9 Present salary, and;
 - 3.10 Professional Success?
4. Are there profile variables that are significantly associated with the status of employability of respondents?
5. Is there a significant relationship between the relevance of skills and knowledge acquired from the academy and the status of employability of the respondents?

1.2. Literature Review

The succeeding paragraphs present the findings of past studies conducted in different fields. These findings are used as bases in identifying areas and findings where the present study is similar with. In the same manner, contrasts were also noted.

Martin, Lang-ay, and Guidangen (2015) traced the Bachelor of Arts in History graduates

of the Kalinga-Apayao State College. They found that 84 out of 98 are employed with 32 working in the government, 35 in the private sector, 3 OFWs and 14 self-employed. The same study also found that most of the respondents secured a job less than one year after graduation. However, second in rank was that other respondents landed in a job four years and above after graduation. The others had their jobs one to three years after graduation.

In Hotel and Restaurant Management (HRM) field, Fronda and Villanueva (2015) focused on the employed HRM graduates in determining the employment potential as indicated by job movement and the relevance of the graduates' positions to their field of study. The respondents were found to be both locally and internationally employable with some of them securing immediate employment abroad after graduation and the academic achievers being mobile in their jobs. These graduates have a good perception of their degree program, and they believe that they have learned the relevant hospitality industry knowledge and skills from the curricular offering of the school.

Outside the Philippines, Rupande (2015) conducted a tracer study on the 140 graduates of Zimbabwe Open University to determine the adequacy of the diploma and degree programs offered by the said university about the needs of the work force. The study found that 120 of the graduates are employed, and 80 of them are employed full time in government agencies. The respondents reasoned that they enrolled in the university because of the flexible schedule, and accessible and flexible education.

Cañizares (2015) focused on the Science and Mathematics Education graduates of the University of San Carlos in his tracer study. He determined the relevance of the curriculum to the needed teaching manpower and to the implementation of the k-12 program. The author found that most of the 43 respondents passed the licensure exam for teachers and are permanently employed. Regarding the relevance of the curriculum, the respondents indicated the subjects sequencing as the best aspect. Also, they mentioned working with others as the most helpful trait developed by the University.

In another area of teacher education, Gines (2014) conducted a tracer study on the graduates of the Philippine Normal University. The author discovered that PNU graduates, who are mostly female, enrolled in the university because of its affordability and because of its reputation. Many of these graduates were employed immediately after their application. According to the respondents, PNU very adequately provided the necessary skills like knowledge and technical, communication, human relations, leadership, research, problem solving and other relevant competencies. Further, these graduates are highly satisfied with the university's services, learning environment and facilities.

Nursing graduates in Davao Doctors College were the respondents of Pia, Matunding and Salvador (2014) when they conducted a tracer study. They aimed to profile their graduates based on their employability, job status, type of employment, monthly income and employer's information. They also included the perspective of the nursing graduates on the academic program, facilities and the impact of teaching and learning process experienced in the institution. The study found that most of the graduates are licensed already and regularly employed as staff nurses. Considering their preparation, the respondents identified communication skills, human relations, critical thinking and problem-solving as relevant in their getting a job.

Ramirez, Cruz and Alcantara (2014) determined the relationship between the field of specialization of Rizal Technological University (RTU) graduates and the skills and competencies they acquired from school. The study found that these skills and competencies had a great contribution to their performance in their jobs, and are therefore relevant.

In the field of information technology (IT), Balingbing (2014) focused on the employability of IT graduates of Camarines Sur Polytechnic Colleges, Nabua, Camarines Sur and discovered that the graduates, who are mostly female, are 20-25 years old, and TESDA certified. Moreover, graduates of the school year 2003-2004 were found incompetent in knowledge, skills, and attitudes while the rest of the graduates were competent in the same areas. Lastly, the level of competence of the graduates

had no significant relationship with the difficulties encountered in the university.

Celis, Festijo, and Cueto (2013) studied the employability of the graduates of Hotel and Restaurant Management of the Lyceum of Philippines University from 2005-2009. They found that majority of the graduates are employed and had a job one to two years after they had graduated. These graduates also considered human relations and communication skills the most useful competencies they had learned from school. For the school related factors, they identified the faculty members' communication and mastery skills as the most important.

In the maritime field, two studies are cited. Orence and Laguador (2013) traced the maritime graduates of Lyceum University of the Philippines University. They found that most of their respondents are employed in maritime-related jobs. On the other hand, Estimo (2012) tracked down the maritime graduates of John B. Lacson-Bacolod. She discovered that most of the alumni were working as ordinary seamen, and some of them did not reach the highest rank even after 17 years after graduation. The study is very relevant though because of its recommendations related to improved maritime education and training.

1.3. Conceptual Framework

The figure below illustrates the relationship between the variables of the study. The main focus, the status of MAAP BSMarE graduates, is related to their profiles and the skills and knowledge acquired by the respondents when they were in the academy. This way, it can be determined whether these pre-determined factors have an association with and effect to where the graduates are at present.

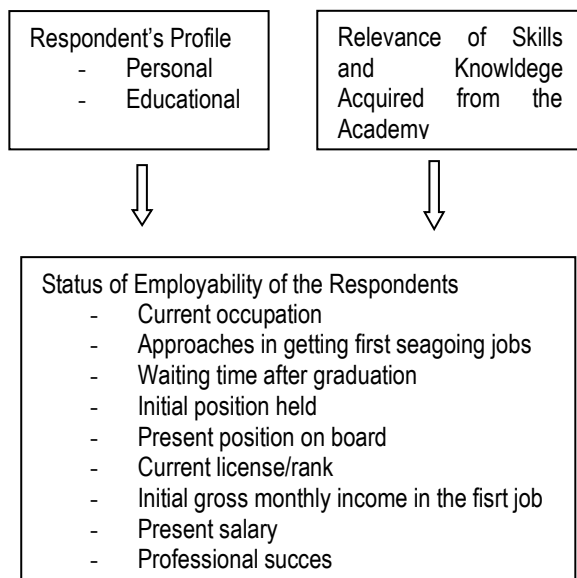


Figure 1. Research paradigm

2. Methodology

This paper is descriptive-survey in design since it presents a picture of the accumulated 132 responses from the Bachelor in Marine Engineering graduates of MAAP from batch 2003 until 2012. The data was gathered primarily through online correspondence since most of the alumni are either on board or not in the academy. Some respondents accomplished the tracer study form when they came to the academy for visits or for the alumni homecoming. Few of these alumni were also interviewed when they did not feel like answering the form on their own.

The data gathered were statistically treated using mostly frequency counting and determining the weighted mean. For the degree of association, Cramer's V was used to establish the relationship. Overall, the data was processed using SPSS version 18.

3. Results and Discussion

3.1. Profile of the Respondents

3.1.1. Personal Profile

MAAP BSMarE graduates are 24-39 years old. Seventy one (53.8%) of the 132 respondents are within 30-34 years old while three (2.3%) are between the ages of 35 and 39. One hundred twenty-eight (97%) of the respondents are males while the rest are females;

59 are married while 73 are still single. Most of the respondents (108 or 81.8%) speak Tagalog while the rest belong to different language groups. In terms of religion, 106 are Roman Catholics while the rest are Protestants in different sects. In terms of residence, 67 (50.8%) live in the city while the rest (65 or 49.2%) reside in the provinces. Finally, 44 of the respondents are from Central Luzon, 37 are from CALABARZON, 12 are from NCR, ten are from Central Visayas and the rest are scattered in the different regions of the country.

3.1.2. Educational Experience

Most of the respondents for the first five years are from the class of 2006 with 22 out of 75 respondents. This class is followed by the classes of 2003 and 2005 with 17 and 15 respective respondents. The least number of respondents is from the class of 2004 with nine respondents only.

For the second group, covering from classes 2008 until 2012, most of the respondents graduated in 2011 with 20 (15.2 %) out of 57 respondents. The class with the least number of respondents is Class 2012 with three (3) respondents only and having a percentage of 2.3.

3.1.3. Reasons for taking the course

The number one reason of the graduates for taking the course is scholarship, as evidenced by 101 (76.5%) responses for this choice. This reason is followed by the hope for employment right after graduation with 57 (43.2%) favoring responses, the chance of working abroad with 54 (40.9%) responses, financial comfort for the family (44 or 33.3%), and influence of parents/relatives (39 or 29.5%). The last reason of the respondents for choosing this field of study is their high grades in the courses related to the program (6 or 4.5%) like Mathematics.

The number one reason identified by the MAAP alumni is in contrast with the reason of affordability and school's reputation given by the education graduates of the Philippine Normal University (Gines, 2014).

3.1.4. Adequacy of Educational Preparation before Entering the Course

In reference to the question on whether the preparation of the respondents before entering the academy is adequate or not, 117 (88.6%) said that the educational training was adequate. Four or 3.0% of the respondents expressed uncertainty in this aspect, while 11 (8.3%) said that they were not prepared.

3.1.5. Problems Encountered While Studying at MAAP

During their stay in the academy, most of the respondents (87 or 65.9%) said that they did not have any problem. Eleven (8.3%) identified homesickness as the problem encountered most of the times. This problem may be due to the situation where they were far from home and had no regular communication with their loved ones. Worse, those who were restricted and deficient were not allowed to enjoy shore leave. Following these two are academics-related (9 or 6.8%), semi-regimented training-related (7 or 5.3 %), and adjustment and food and water factors (6 or 4.5%).

In the early years of operation, MAAP did not have the academic probation program where those who failed in the course/courses are given another chance, so cadets then had a lot of pressure in maintaining their passing grades. Also, regimentation was so stiff until 2012. Rules and regulations were strictly implemented. This may be one of the reasons why adjustment was also mentioned as a problem. Further, cadets were allowed to eat three times a day only, and they ate what was served to them. They were not allowed to bring or buy other foods from outside except when they had shore leave or they were upper classmen, and they had the privilege to buy limited goods at the slop chest. The least problem encountered is the lack of practicals at the laboratories. MAAP has been equipped with state-of-the-art facilities where cadets can practice the theoretical concepts taken in the classroom.

3.1.6. Study Provisions and Study Conditions Experienced

Considering the teaching-learning environment experienced by the respondents, all of them rated this area 'good.' This means that MAAP is doing well in preparing, training and involving its cadets in its operations and processes. Among these provisions and conditions, the respondents rated 'overall experience in the academy' the highest mean of 4.36 and the 'chances to participate in research and extension projects' and 'chances for students to have an impact on academy policies' the lowest mean of 4.04.

The semi-regimented training and set-up of the academy could be a factor why the students do not have much chances to have an impact on the policies implemented in the academy. The Midshipman Fleet Regulation (MFR) states all the acceptable educational, personal and social (including leadership) practices allowed in the academy.

Gines (2014) used adequacy to rate the study provisions of the Philippine Normal University (PNU), and found out that the school (PNU) adequately provided its graduates with the necessary skills. On the other hand, Celis, Festijo, and Cueto (2013) rated the provisions according to their importance. Their respondents mentioned that the faculty member's communication and mastery skills are the most important.

3.1.7. OIC-Engine Watchkeeping licensure examination performance

From the Marine Engineering graduates from 2003 to 2012, 125 or 94.7% passed with 80 (60.6 %) having an average between 70 and 79, and 45 (34.1%) averaging between 80 and 90. Three (2.3%) out of 132 did not pass while four (3.0%) either did not take the examination or did not answer this question.

3.2. Relevance of Knowledge and Skills Acquired at MAAP in Jobs

The responses of the population on how the pre-determined factors are relevant to their respective jobs are presented were collated. These pre-determined factors refer to the knowledge and skills offered by the academy. These are deemed necessary in building the midshipmen in all aspects so they can be

equipped for their future profession and for their future life, in general.

Generally, all the knowledge and skills are considered relevant by all the respondents, except for technical knowledge and skills which are rated very relevant. Among the relevant skills and knowledge, theoretical and communication knowledge and skills got the lowest respective means of 4.25 and 4.32.

The relevance of the knowledge and skills as perceived by the graduates of MAAP is the same with the perception of HRM graduates (Fronza & Villanueva, 2015), nursing graduates (Pia, Matunding & Salvador, 2014) and the graduates of Rizal Technological University (Ramirez, Cruz & Alcantara, 2014). The finding on the relevance of communication skills is the same with the finding of Orence and Amador (2013) who focused on the maritime graduates of Lyceum of the Philippines University from 2007-2011.

3.3. Status of Employability of the Graduates

3.3.1. Occupation of Seafarers

As noted, 95 or 72% of the respondents are in active seafaring. Twenty-six (19.7%) are working both at sea and on land, while the rest of the population, 11 or 8.3%, are in maritime land-based jobs, mostly teaching. Of the total population, 103 or 78% are contractual, while the rest (29 or 22%) are regular.

3.3.2. Approaches in Getting First Seagoing Job Placements

As gathered, 10, 102 (77.3%) graduates are presented to have secured their first job through MAAP's job placement or scholarship. Through this program, graduates were given sponsors who supported their education from their first year until their last year in the academy. Those who were not able to qualify for the sponsorship applied for one during their first year or second year. The rest landed on their jobs through recommendations, information from others, advertisements or family business. Two (1.5%) used other approaches in landing to their first job.

3.3.3. Waiting time on first seagoing job placement after graduation

Thirty-nine (29.5%) of the MAAP alumni had to wait for three to six months before landing a job, 31 or 23.5% waited for less than three months only, 27 (20.5%) had six to nine months waiting, 18 or 13.6% had nine to 12 months, six (4.5%) had over one year, and 11 (8.3%) did not indicate how long they had to wait.

The length of time between graduation and employment, which is mostly one year or less is similar to the waiting time of graduates from other disciplines like AB History (Martin, Langay & Guidangen, 2015), HRM (Fronza & Villanueva, 2015) and education (Gines, 2014).

3.3.4. Average Length of Service Per Embarkation

As mentioned earlier, those who became active seafarers worked on a contractual basis. However, the duration of contract varies from one company to another and from one position to another. As presented, out of 132 respondents, 59 (44.7%) signified that the average length of their contract is seven to nine months. Thirty-seven (28.0%) usually work on board from five to six months, 15 (11.4%) work for over nine to 12 months and 12 (9.8%) work for less than five months. Nine or 6.8% of the respondents did not mention their length of service.

3.3.5. Initial and Present Positions Held on Board

Ninety-four or 71.2% of the respondents boarded their ships for the first time as engine cadets, 20 or 15.2% boarded as ratings and 17 or 12.9% first went on board as operational level officers. One did not indicate his/her initial position, explaining the total number of responses (131). At present, out of these 131 respondents, 97 or 73.5% are in the operational level while 34 or 25.8% are in the management level.

Though coming from different programs, the information on the present rank of the alumni of the academy is in contrast with the data on the BSMT alumni of John B. Lacson-Bacolod who are mostly ordinary seamen (Estimo, 2012).

3.3.6. Current license/rank

Regardless of positions held on board, 53 or 40.2% of the MAAP engineering graduates have licenses as second engineers, 51 or 38.6% are third engineers, 16 or 12.1% are fourth engineers, and six or 4.5% are chief engineers. Six or 4.5% of the respondents did not indicate their licenses.

The license held does not equal position since different shipping companies have their own policies in promoting their crew. So it happens that even if the seafarer is a licensed chief engineer, he may still be working on board as a second or a first engineer.

3.3.7. Initial and Present Gross Monthly Earnings as Seafarers

The respondents have varying income ranges when they first boarded their vessel. The same is true considering their position at present. In relation to their initial position, 90 or 68.2% received below \$1,000. Eighteen or 13.6% received between \$1,501 and \$2,000, ten or 7.6% received a salary between \$1,000 and \$1,500, seven or 5.3% received \$2,001 and \$2,500. One or 0.8% of the population received the highest pay of between \$4,001 and \$4,500.

During the time of data gathering, 38 or 28% of the population were receiving over \$5,000. Thirty-four or 25.8% of the 131 respondents were receiving \$3,001 to 3,500; 13 or 9.8% were receiving \$2,501 to 3,000; nine or 6.8% were within the bracket of \$3,501 to 4,000; eight were within the brackets of \$1,000 to 1,500 and \$2,001 to 2,500. The least number of respondents, three, were receiving a salary between \$1,501 to 2,000.

3.3.8. Professional Success

Considering 10 factors, the respondents are satisfied with where and what they are now as numerically represented by a composite mean of 3.92. This satisfaction level is highly evidenced in their position which has the highest satisfactory mean of 4.01. On the other hand, awards and recognition have the lowest satisfaction level, with a composite mean of 3.65.

3.4. Profile Variables and Status of Employability

This part shows the relationship between year graduated variables and the status of employability of the MAAP engineering graduates. The year graduated variables are the year and their age when they graduated. Also included here are the study provisions and conditions, and the relevance of knowledge and skills acquired in the academy.

The occupation of the marine engineering graduates and their profile variables of age and year graduated have a moderate association. The same is true for average embarkation and civil status and year graduated. The initial job level and age have a weak association, while the initial job level and year graduated have a moderate association. Civil status and present job level have a moderate association. On the other hand, the latter and age and year graduated have a relatively strong association. The graduates' initial pay and their urbanity and year of graduation have a moderate association. In addition, present pay of the alumni and age have moderate association also. Their year of graduation and their present pay have a relatively strong association.

The graduates' license and the study provisions and conditions of MAAP have a moderate association. Meanwhile, professional success and study provisions and conditions have a relatively strong association, but the same status of employability and relevance of knowledge and skills have a moderate association.

4. Summary and Conclusion

This tracer study was conducted as an initial effort to gather information on the status of the graduates of the Maritime Academy of Asia and the Pacific. Based on the results, most of the graduate-respondents are gainfully employed with most of them still active in seafaring, holding various licenses and positions.

These graduates entered MAAP mostly because of scholarship, and many of them also claimed that they were adequately prepared for their program. Since they were prepared and probably motivated by scholarship, majority of

the graduates did not encounter any problem during their stay in the academy. At the same time, they had a good experience with the study provisions and conditions of MAAP. More importantly, these alumni consider the knowledge and skills offered by MAAP to be relevant.

In terms of their present status, the graduate-respondents described that they are satisfied in all the dimensions of their profession. However, they gave the awards and recognition the lowest 'satisfied' level.

5. Recommendations

Based on the findings of the study, the following are recommended:

1. The alumni office should come up with a better contact and/or communication system with the graduates of the academy so each class can be represented in the tracer studies in the future;
2. The midshipmen of the academy should be actively involved in extension services so they may understand and appreciate more their contribution to their community;
3. The midshipman fleet should be oriented with and encouraged to be actively involved in the different research activities. The earlier the orientation and exposure, the better. This way, they will not have a very difficult time when they take their research courses;
4. Teachers should ensure that students understand the theoretical bases of their practical exercises. Also, the Department of Academics as a whole and the administration, including the Department of Midshipman Affairs, should improve further their topics and trainings related to communication, critical thinking, leadership, human relations and problem solving in such a way that the students realize the significance of these to their future life on board and to their life in general.
5. Future researchers should include a bigger population from each class so that the total population can be well represented. Also, other variables like

areas of academic operations for improvement may be included.

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Prototype Multi-purpose Safety Grinder Attachment

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Abstract: *The most common accidents in the workshop involve hand and eye injuries. These injuries seem to be too minor and are usually considered parts of the normal process but such accidents may also be attributed to the behavioral lapse of workers while at work and/or the presence of hazards on the machine and power tools being used; thus, the need to address these concerns as well as develop the safety awareness of the MAAP cadets. The study aims to design, construct, and test a safety device using ordinary scrap materials found in the workshop to make the machine more efficient and effective as well as safer to use. This prototype attachment aims to help minimize the occurrence of common hand and eye injuries related to the operation of the grinding machine. It also purports to minimize the possibility of burning motor grinder due to overloading. Lastly, it aims to determine the viability and functionality of the constructed attachment, with minimal cost. The design of the project comes in different parts: the tool rest with a sliding guide, pieces of acrylic glass that serve as covering lids of the grinder with limit switch, and a magnetic contactor with overload relay. Related results of the study show that the constructed attachment is both viable and functional, with minimal cost required. It likewise shows that the multi-purpose safety bench grinder attachment is relevant to the skill being developed, effective and efficient to a very high extent.*

Keywords: *prototype multi-purpose safety grinder attachment*

1. Introduction

Accident is defined as a sudden event that is not planned or intended, which causes personal injury or property damage (Occupational Safety Health Association [OSHA], as cited in Safety Health Management System Training, slide 6). Accidents in the workplace are inevitable

(Fusion Health, 2016 and Work Safe BC, 2005, as cited in Association of Workers' Compensation Boards of Canada), two percent (2%) of which are caused by acts of nature, eighty-eight percent (88%) by human error and ten percent (10%) by unsafe conditions (Progressive Business Publications, 2006). It is noticeable that both "unsafe acts and unsafe conditions" (McKinnon, 2000), also called "surface causes" (Oregon, n.d.), are considered primary "factors in the accident sequence" (McKinnon, 2000). But while they cannot be anticipated nor fully avoided, there are measures that can be undertaken to help minimize them. The engineering concept of "Foresight and Hindsight" (prevision and revision), a method of controlling hazards, is one such measure (Miraglia and Vrouwenvelder, 2013 p. 481). Both gearing for safety, prevision is planning the work in advance and revision is making modifications to address specific hazards after having been revealed due to any untoward incidents.

A significant number of occupational accidents and injuries happening on board ship is attributed to human error (Harvey, et al., 2013). Most of the time mistakes are not caused by the incompetence of individuals as they perform their job, nor the lack of formal education, trainings, or work experiences. Rather, due to the repetitive nature of their work they become complacent over time (Mittman, 2011).

This complacency may account for noncompliance of very simple tasks such as wearing eye protection at work. Research shows that in the United States, an estimated 1,000 eye injuries occur daily in workplaces (U.S. Department of Labor, Fact Sheet No. OSHA 92-03). This incurs more than \$300 million financial wastage per year in lost production time, medical expenses, and workers' compensation. The same study further revealed

that one of the causes of the said injury is not wearing eye protection at the time of the accident.

In MAAP alone, there are twelve machine shop-related minor injuries reported within the period of April 2015 to March 2016. These incidents happened despite a rigid training on the course, especially on the importance of safety. MAAP infirmary reports that 6% out of the total 200 Marine Engineering midshipmen from 4th to 3rd class were involved in accidents in machine shop within the inclusive year. The data also indicated that there was an average of one accident per month in workshop laboratory. The injuries included lacerated wounds and eye injuries attributed to improper use of grinder and improper or non-usage of personal protective equipment (PPE's) while working in machine shop.

This study purports to provide a low-cost multi-purpose safety attachment for bench grinder installed at the point of operation. It serves as an additional guard in order to enclose about 70 to 90 percent of the abrasive wheel, ensuring better eye and respiratory protection. This device is made of both metal and acrylic materials with interchangeable flexi-glass to provide safe viewing of the metal being grinded. The attachment is also equipped with magnetic contactor with overload relay that will keep the safe running condition of the motor and limit switch at the end of an acrylic glass that serves as a covering lid. This makes it mandatory to employ the necessary eye protection prior operation of the machine. Aside from the cover, it is also capable of adjusting the tool rest using a knurled knob with no need for special wrenches to move the tool rest of the machine to a safe distance. This eliminates the possibility of the operator placing his fingers or hands where they could be caught and injured by moving parts. It also minimizes the chances of accidentally grabbing the metal being grinded, which could lead to a possibly fatal explosion of the grinding wheel. Another special feature of this project is the sliding guide on the top of the tool rest which helps the midshipman achieve fast, accurate, and safe sharpening of lathe cutting tools.

The project is conceived in order to address the growing number of hand and eye injuries

related to the operation of the bench grinder during machine shop laboratory in both IMMAJ and MAAP campuses. Prior the draft design, actual devices related to the safe operation of the grinder have been checked on the net. Comparing the existing designs, it has been noticed that no grinding machine has an attached permanent eye protection that will help ensure the safety of the user when not using other detached eye protection such as goggles (especially the grinding units in MAAP). This necessitated the idea of the acrylic glass cover with limit switches in the end.

This research also tries to address hand and finger injuries. These accidents happen because of two common "bad" practices of the machine operators. First is forcing the material being grinded, thinking that the more pressure applied, the sooner the task is accomplished. By doing so, the operator is actually exposed to the danger of getting hurt by the rotating grinding wheel. Second, due to constant operation the grinding wheel is consumed, getting the diameter of the wheel smaller every time. Because of this the tool rest supposedly needs to be regularly adjusted in order to maintain the safe distance of the tool rest. Unfortunately, this is not always done because of behavioural lapses. This results in the grinded material being grabbed by the rotating wheel including the operators' hands and fingers. It is even potentially fatal because the sudden grabbing of the workpiece could cause clogging, which in turn could cause grinding wheel explosion. When this happens, the wheel will break into small pieces while rotating. Operators run the risk of getting hit by shrapnel.

1.1. Statement of the Problem

This study aims to design and construct a low cost multi-purpose safety attachment for bench grinder. In particular, it aims to answer the following research questions:

1. What are the materials used in the construction of the safety grinder attachment?
2. How is the safety grinder attachment designed?
3. What are the parts and functions of the safety grinder attachment?
4. How may the safety attachment be described in terms of:
 - a. its operation
 - b. the perception of MAAP cadets?

This study is significant as it offers the stakeholders safety as well as help ensure more content coverage in the actual laboratory instruction. Eventually, it can be used in different maritime training centers accredited by TESDA for the skills development of both officers and rating on board. Likewise, it is useful to the other schools as they conduct the STEM track in the K-12 program.

1.2. Conceptual Framework

The conceptual framework used as guide in this study is depicted in the form of paradigm in Figure 1 (See *Appendix A*). It followed the input, process, and output approach.

The inputs of this study are alternative ideas from allied and general education instructors, books, online-based materials, and other references. It also includes the standards set by OSHA on bench and pedestal grinders machine guarding 1910.211, tools and equipment, and labor cost.

The process of this study consists of the processes involved in the development of the project such as preparation of materials, designing, constructing, testing, evaluating and revising.

The output of this study is a low-cost multi-purpose bench grinder safety attachment.

2. Methodology

2.1. Research Design

The study is developmental in nature as it is geared towards designing, developing and evaluating a machine that aims to achieve internal consistency and effectiveness (Richey, 1994). To date, there is no similar design available in the market. The design is conceptualized because of the increasing numbers of hand and eye injuries related to the operations of bench grinder. Materials and functionality of the project are tested through actual exercises, performed by more than one hundred MAAP Marine Engineering midshipmen. Defects and problems encountered during the construction and pilot testing are properly addressed to ensure safety and effectiveness of the project.

2.2. Treatment of Data

To determine the relevance, usability and further improvement of multi-purpose safety grinder attachment, the responses to the questionnaire were quantified using the following scale:

Point	Descriptive Equivalent
5	Strongly Agree
4	Agree
3	Moderately Agree
2	Disagree
1	Strongly Disagree

To interpret the results of the questionnaire on the relevance, usability and further improvement of multi-purpose safety grinder attachment, the following descriptive equivalents of scores were used:

Mean	Descriptive Equivalent
1 – 1.49	Not at all
1.50 – 2.49	To some extent
2.50 – 3.49	To a moderate extent
3.50 – 4.49	To a great extent
4.50 – 5.00	To a very great extent

3. Results and Discussion

3.1. Materials and Equipment

Different materials, machine tools and hand tools were used to construct the safety grinder attachment.

The tools and equipment as well as their uses are shown in table 1 (See *Appendix B*).

3.2. Design of the Project (*Appendix C*).

The Multi-Purpose Safety Grinder Attachment Part Assembly (*Appendix D*) shows a complete part list assembly with dimensions used in the construction of the project.

The Tool Rest Assembly (*Appendix E*) shows the complete parts of tool rest and its dimensions. This major part is attached on the stand (*Appendix F*). The knob is provided at the end of the top slide in order to adjust the part without the aid of wrench. This maintains the safe distance between the tool rest and the face of the grinding wheel. The inner tongue is provided in front of the top slide to minimize the metal dust during the grinding process.

The Stand shows the parts of the attachment which hold the tool rest assembly. The slot provided is designed to set the tool rest to a specific degree which corresponds to the end clearance of the cutting tool. Likewise, the slot at the base of the stand is cut to secure the part, and so that it can be turned to a specific degree.

The Cover Lid Assembly (*Appendix G*) is a combination of lid cover, lid cover guide, and the micro limit switch with their measurements. This part of the attachment is the first line of eye protection. There are two (2) of these covers. The attachment cannot be used unless you close both.

The Schematic Diagram (*Appendix H*) shown below is the electrical diagram connection used in the project. MC stands for magnetic contactor, OL for overload relay, LS1 and 2 for the micro limit switches, C for the coil, and M for the single-phase motor of the grinder.

The procedures in the construction of the multi-purpose safety grinder attachment are as follow:

1. Secure, clean and repair the bench grinder to be used in the project.
2. Scout for the scrap metals to be used and clean them thoroughly. Cut according to the required measurements.
3. Lay out the metal stand according to the project design and measurements. Shape it using the milling machine.
4. Machine the parts to be used as tool rest and its components.
5. Shape the locking screw using lathe machine. Cut the external thread using threading dies. Assemble the first part done for testing.
6. Measure the metal plate which will be used as base of the bench grinder. Weld the pattern and drill using the milling machine for straight and more accurate holes.
7. Clean the acrylic glass to be used as a covering lid of the grinder. Measure and cut

following the parts and specific design. Bend the acrylic glass using heat from burning acetylene flame. Check the newly bended grinding wheel cover.

8. Weld the braces using AC/DC welding machine. Check the alignment and full weld the braces parts. Grind the excess metal and polish the work.

9. Install the micro limit switch. Connect the 110 transformer and rectifier using electrical tape. Connect the different wires to magnetic contactor and overload relay. Double check the wiring installation.

10. Painting and finishing.

3.3. Multi-Purpose Safety Grinder Attachment Parts and Functions (*Appendix I*)

The design of the project comes in different parts: the tool rest with a sliding guide, pieces of acrylic glass that serve as covering lids of the grinder with limit switch, and a magnetic contactor with overload relay. The following are their specific functions.

Bench grinder is a power-driven tool used to sharpen cutting tools for different metal shaping processes, cleaning and smoothing parts. It is sometimes used for shaping different types of materials, mostly metal. Tool rest assembly is a part of the project where the material being sharpened or shaped is placed. It can be adjusted using a knurled knob as the grinding wheel is consumed. This ensures the safe grinding process. Cutting tool holder is screwed on top of sliding guide in order to sharpen the cutting tool faster, with ease and utmost safety.

Metal chips deflector is used to minimize the metal chips (metal dusts) that might accidentally be inhaled or might fly and hit the operator's eye, by restricting the metal dusts inside the grinder's cover. This part is placed as an additional safety for respiratory and eye protection. Acrylic glass covering lid assembly is the covering lid that serves as secondary protection to ensure that no metal chip or dust will escape from the grinding machine, which could cause respiratory or eye injury. This covering lid also serves as primary safety switch which the operator cannot use unless he

closes first. Micro limit switch is placed under the acrylic glass. It serves as a proximity safety switch which will turn on the magnetic contactor when the covering lid is positioned downward and covering the grinding wheel; and turn it off when the lid is placed upward.

Magnetic contactor with overload relay is an electrical device which controls the operation of the grinder. It is equipped with overload relay to ensure that the grinder motor will not overload despite continuous laboratory exercises. 110 Transformer with Rectifier is a step-down transformer that reduces the 220 to different lower voltages like 110, 24, and 12 volts. The project uses 12 volts to power the light emitting diode (LED). The rectifier converts AC to DC since the LED is in direct current.

Finally, the metal dusts collector is the part that collects dusts from the metal being grinded and the grinding wheel itself as it is consumed, to ease the cleaning process after work. Braces are the parts of the attachment which hold the other parts together like the covering lid and metal chips deflector.

3.4a. Operation of the Attachment

In the old grinder, there is a big chance to incur eye injuries. This is due to either intentional reasons or behavioural lapses which are common problems in schools, training centers, and workplace, especially so if the work being done is repetitive in nature where there is a tendency for the operator to make short cuts over time. On the other hand, the double eye protections offered by the lid cover of the new attachment prohibits the metal dust from escaping from the acrylic cover and the goggles worn by the cadet. Chances of behavioral lapses are addressed by the safety offered by the new machine as the operator cannot turn it on without closing the lid cover first; thereby protecting his/her eyes during the operation. When a student tries to move the cutting tool forward or force feed from the grinding wheel face to shape and sharpen the tool at a faster time, there is always a tendency for the cutting tool to slip on the grinding wheel face. This could lead to hand and finger injuries ranging from minor lacerations to deep cut depending on the pressure applied by the operator. Too much pressure applied to the

motor can cause overloading and overheating, which could lead to premature burning of the grinder. The new attachment eliminates these problems as the operator will no longer force the cutting tool forward. Instead, it he/she will have to move it sideward, as necessitated by the new tool rest design. Once the grinding wheel is consumed it can easily be adjusted using the knurled knob connected to the tool rest.

3.4a.1 Pilot Testing and Evaluation

The pilot testing of the project was done by all third classmen in the Marine Engineering main campus. They utilized the project on machine tool operations course specifically on cutting tool design exercises for the entire first semester of academic year 2016– 2017.

Cadets are simultaneously testing the project with and without eye protections, respectively. The comparison is made to show how safe the project is (although it is not recommended to work without an eye protection). This is due to a 5mm. thick acrylic glass which covers almost 70 – 80% of the grinding wheel. Because of the flat and straight grinding wheel face of the new attachment, no force feeding was applied due to the sideward movement of the sliding guide which protects the hand and fingers of the operator. Lastly, since no force feeding was applied there is no overheating of motor grinder.

3.4a.2. Revising the Multi-Purpose Safety Grinder Attachment

Several concerns were encountered during the pilot testing. Some were immediately addressed such as the need to:

1. construct dust collector to minimize the post-operation cleaning time as well as the hazard on respiratory, by preventing the metal chips to circulate during the operation;
2. put color-coded “Y” connectors on electrical wirings for easy and fast repair;
3. change the design of the tool bit holder from single bolt (which sometimes moves while sharpening, making it hard to position) to double bolt (which secures the tool bit firmly and maintains the accuracy of the angle) thus ensuring safety; and

4. fabricate additional jigs for parting-off and roughing tool to cover the other cutting tool shapes used in lathe operations.

All of the above-mentioned adjustments are already incorporated in the current design.

3.4b. Perception of MAAP Cadets

Tables 3 to 8 (*Appendix J*) present the evaluation of the respondents to the questionnaire pertaining to the fitness, relevance, effectiveness and efficiency of the multi-purpose safety grinder attachment. The tables also show their level of satisfaction to the said project during the pilot testing of the device.

As reflected in Table 3, it is evident that the respondents deemed that the multi-purpose safety grinder attachment is appropriate or fit for purpose to be used in the Machine Shop class. This is indicated by the composite mean of 4.69 which indicates a very great extent of appropriateness or fitness for purpose. Specifically, the respondents provided the highest mean rating of 4.79 on defining clearly its purpose in line with the subject areas. In contrast, the lowest mean of 4.56 is on promoting manipulation of data and digital information, and encourages personal responsibility for learning. This lowest mean rating is not a surprise considering that the safety attachment is manual and is not designed for digital concepts.

A composite mean of 4.71 suggests that with respect to relevance to discipline, the respondents considered the multi-purpose safety grinder attachment to be relevant to a very great extent. While all the items in Table 4 indicate very great extent of relevance to the discipline, the highest mean of 4.76 is on aiding in having appropriate activities for the students; while the lowest mean of 4.64 is on aiding in solving real life situations on the lessons.

In terms of effectiveness, the composite mean of 4.69 implies that the students believed that the multi-purpose safety grinder attachment is very effective. In particular, it can be noted from Table 5 that showing usefulness in understanding the different concepts of the subject is the area where the device is most effective, posting the highest mean of 4.73. On the other hand, communicating knowledge and

ideas effectively obtained the lowest mean of 4.59. Nevertheless, this rating still suggests a very great extent of effectiveness.

With respect to efficiency, the students considered the multi-purpose safety grinder attachment to be very efficient having a composite mean of 4.72. As shown in Table 6, the device is most efficient in terms of being designed to support ease of learning and encouraging students to complete their given task, having the highest mean of 4.76. Though still indicating very great extent of efficiency; strengthening the learning interests of the students, encouraging the student to work at his own pace, and reinforcing the transfer of learning could still be improved.

On satisfaction, Table 7 clearly shows that the respondents are very satisfied with the multi-purpose safety grinder attachment. This is indicated by the composite mean of 4.74 as well as the mean rating of each item. It shows that the students are most satisfied with the device in terms of its capability to offer meaningful experiences to the learners, having the highest mean of 4.73. On the contrary, providing useful information, graphics and illustrations to better understand the topics presented obtained the lowest mean of 4.73. This could be an area for further improvement as far as satisfaction of the students on the device is concerned.

Results show that the mean score of all the items fall within the range 4.50 to 5.00, interpreted as **to a very great extent**. Hence, it can be said that the multi-purpose safety grinder attachment is to a very great extent fit to the purpose; to a very great extent relevant to the discipline; to a very great extent effective; to a very great extent efficient; and the respondents were satisfied to a very great extent. This is also evident in the overall composite mean of 4.71.

Looking closer, satisfaction obtained the highest composite mean of 4.74, followed by efficiency with composite mean of 4.72. The lowest composite mean of 4.69 is on both fitness of purpose and effectiveness. Though these lowest means still post high ratings, improvement in these areas can still be considered.

Twenty-four (24) out of the total sixty-six (66) respondents who carefully evaluated the attachment wrote their comments in the survey.

All of them said that the safety grinder attachment is effective and efficient. They say it is “easy and safe to use”, “user friendly” especially for beginners who can use it “without fear and effort”, “consumes less time and effort”; and “provides a more accurate measurement” in their projects. These respondents even recommended to have this “very useful invention” reproduced for other midshipmen’s use; and that “more grinders should be improved”. Interestingly, no one recommended that the pilot machine should be revised or fine-tuned to make it more effective. Nevertheless, the researcher intends to make another jig for drill bit sharpening to increase the market potential of the attachment.

4. Recommendations

Based on the findings and conclusion of the study, the following recommendations are hereby offered:

1. More safety attachments should be constructed for maximum utilization of the cadets and other stakeholders;
2. Further research should be done in improving the design so as to increase the market potentials of the project;
3. Further testing of the project should be done, on a wider scale and for a longer period of time to significantly measure the safety, efficiency and effectiveness of the project.
4. This project should be patented.

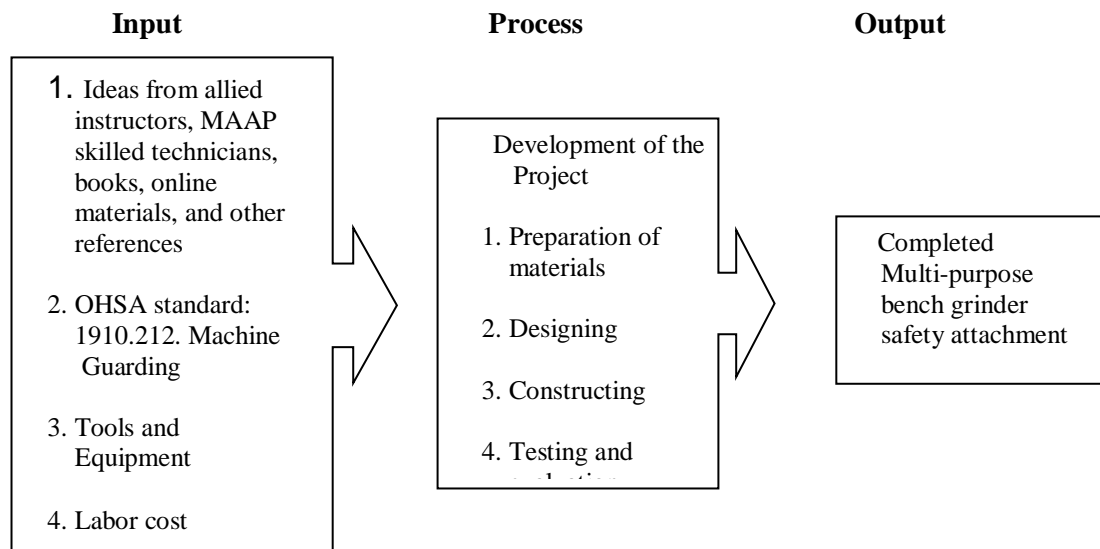
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Appendix A

Figure 1. Model of the Study



Appendix B

Table 1

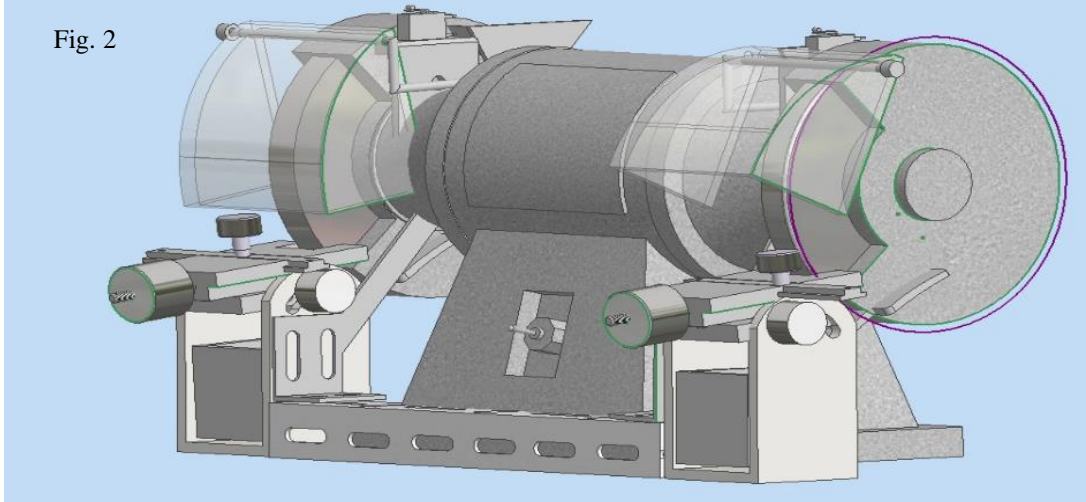
Machine- and Hand Tools and Their Uses

Item No.	Hand tools and Machine tools	Uses
1.	Milling machine	Used for machining the tool rest and its components
2.	Lathe machine	Used for turning, drilling, boring, knurling, and thread cutting metals parts
3.	Bench grinder	Used for sharpening cutting tools and smoothing parts of the project
4.	AC/DC Welding machine	Used for temporary and permanently joining different parts of the project
5.	Mobile gas welding unit	Used for forming the acrylic glass as a covering lid on the project
6.	Angle grinder	Used for cleaning and smoothing newly welded parts
7.	Vernier caliper	Used for precision measuring of the tool rest and other components
8.	Steel rule	Used for marking parts prior to cutting
9.	Steel protractor	Used for measuring angles
10.	Different marking instruments	Used for laying out the shape of metal prior to machining processes
11.	Different hand pliers	Used for holding, cutting, and bending wires
12.	Wrenches and spanners	Used for loosening and tightening threaded parts of the project
13.	Engineer's square	Used for checking perpendicularity
14.	Analog multi-tester	Used for checking and testing wire continuity
15.	Screw drivers	Used for turning screws
16.	Bench vise	Used for holding different parts of the project while sawing, thread cutting, and marking process
17.	Cutter	Used for cutting, cleaning, scraping dirt on the surface of acrylic glass
18.	Hacksaw	Used mainly for sawing different metals and acrylic glass
19.	Hand taps and tap wrench	Used for cutting internal thread on different knobs and nuts used in the project
20.	Threading dies and die stock	Used for cutting external threads
21.	Soldering gun	Used for soldering different wires to ensure proper connection of electrical wirings
22.	Assorted personal protective equipment (PPE's)	Used to protect researcher while working on the project.

Appendix C

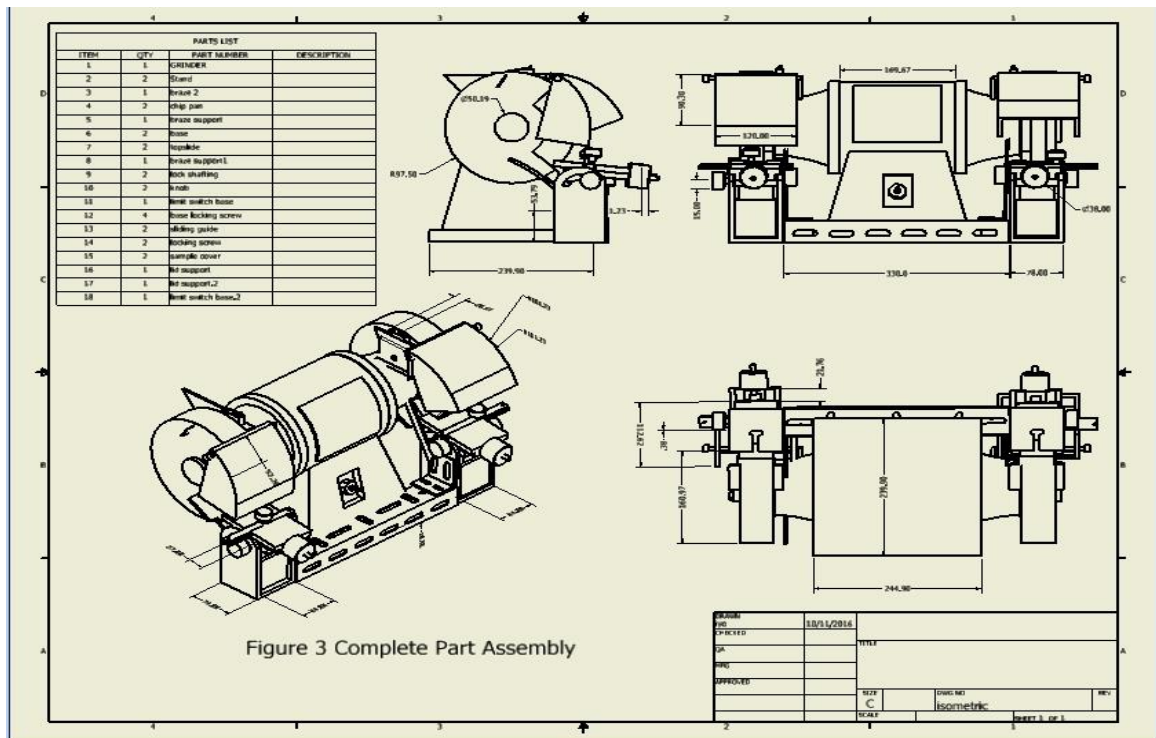
Design of the Project

Fig. 2



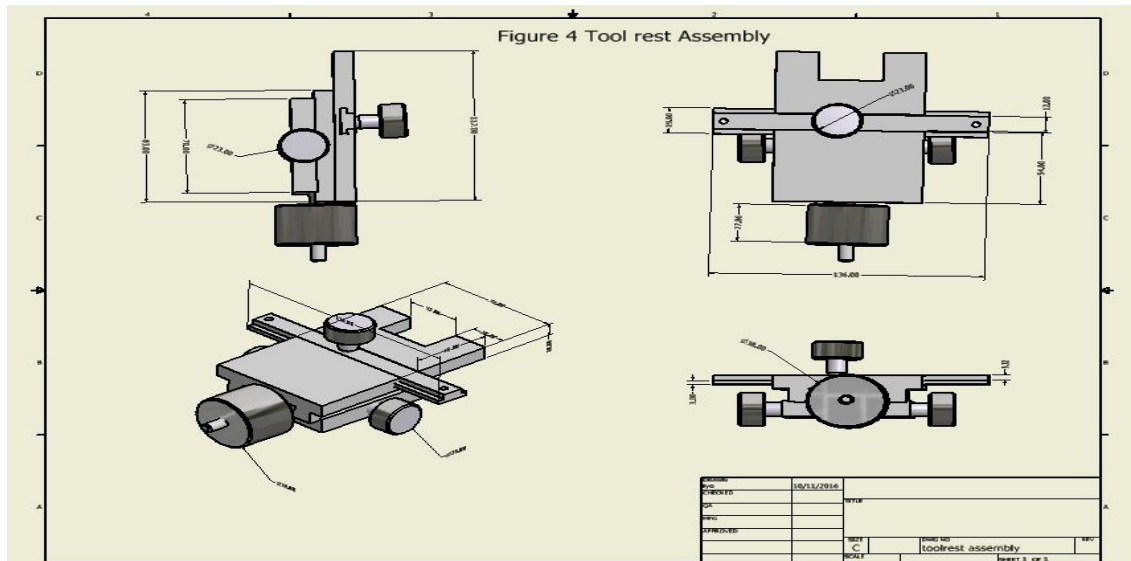
Appendix D

Part Assembly



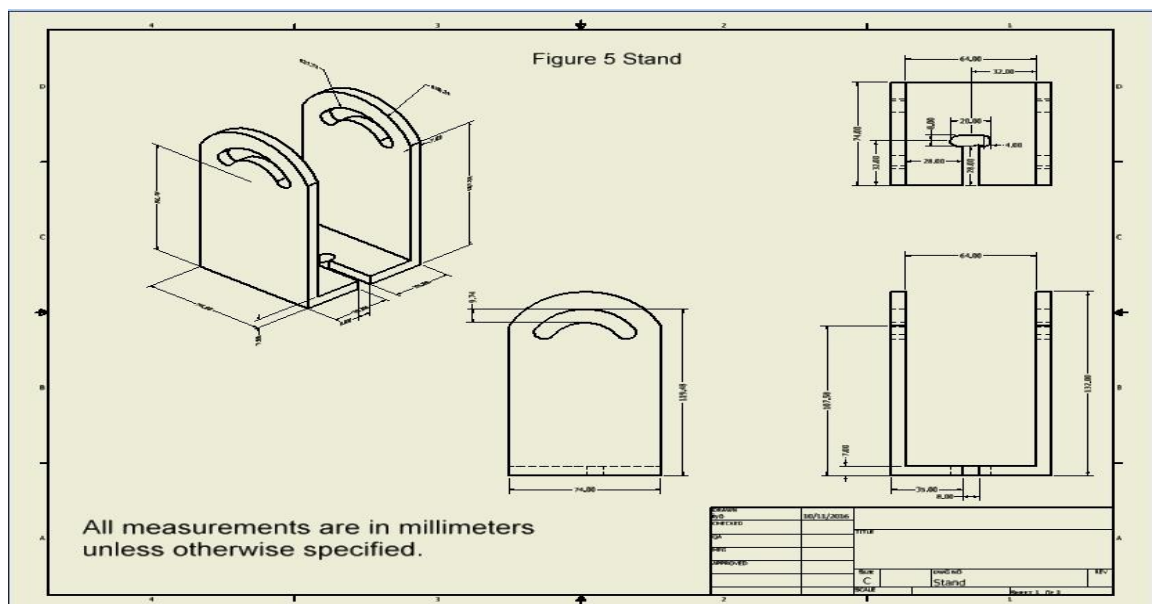
Appendix E

Tool Rest Assembly

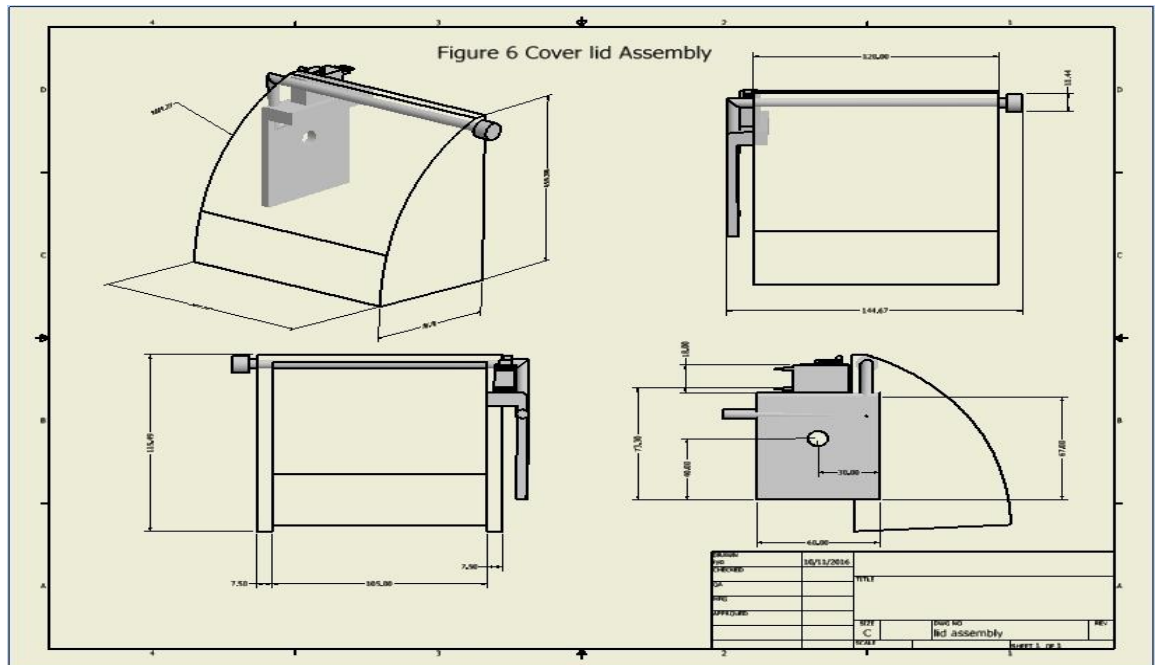


Appendix F

Stand



Cover Lid Assembly



Appendix H

Schematic Diagram

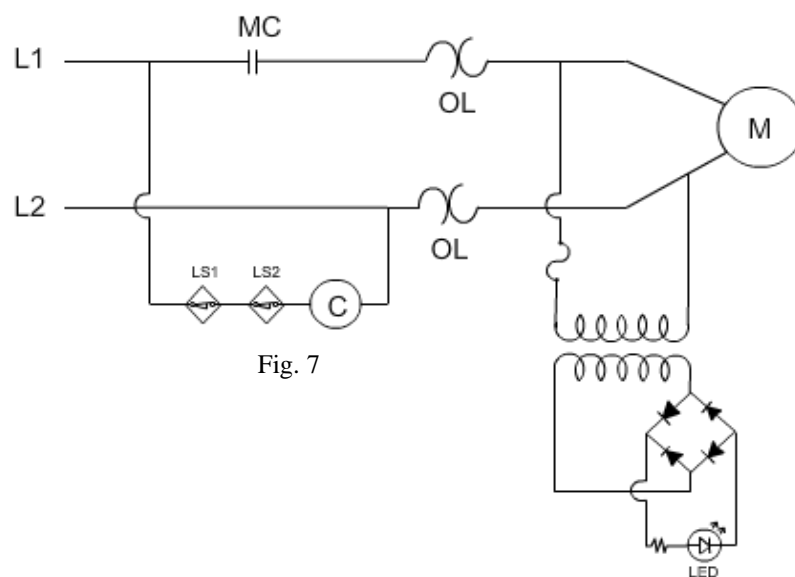
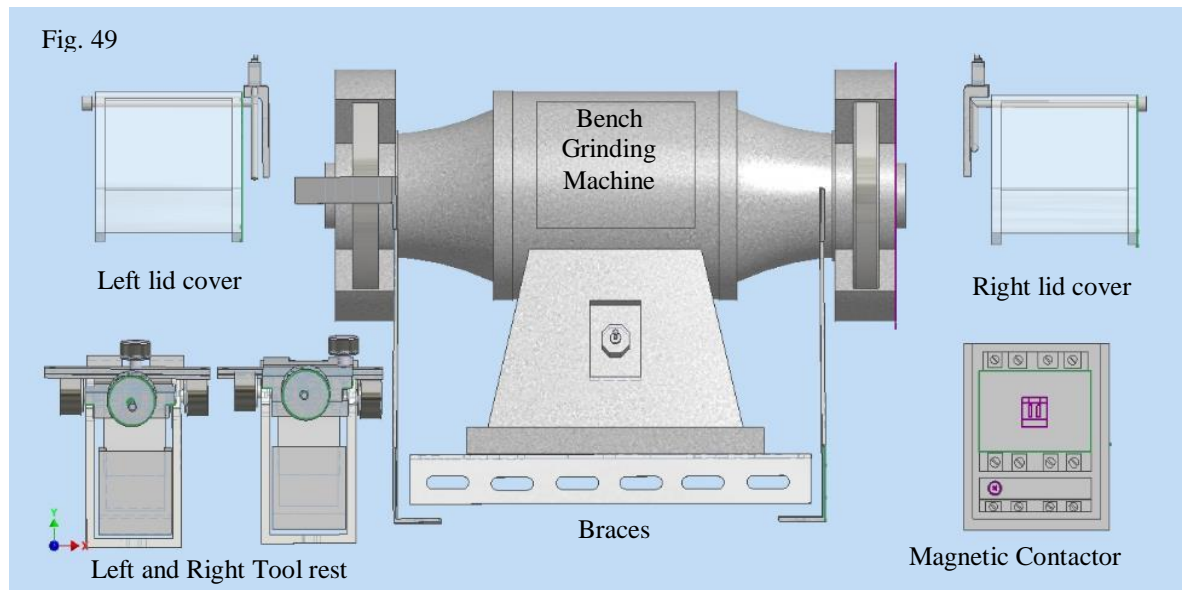


Fig. 7

Appendix I

Multi-Purpose Safety Grinder Attachment Parts and Functions



Perceptions of MAAP Cadets

Table 3

Fitness of Purpose of the Multi-purpose Safety Grinder Attachment (N = 66).

Item	Mean	Descriptive Equivalent
1. Supports the realization of the general objectives of the course	4.73	To a very great extent
2. Satisfies the curriculum requirement	4.65	To a very great extent
3. States the possible skills to be acquired by the students upon successful completion of the subject	4.62	To a very great extent
4. Addresses skills or technical procedures needed in the subject	4.71	To a very great extent
5. Defines clearly its purpose in line with the subject areas	4.79	To a very great extent
6. Is in-depth and enhances conceptual understanding and engages higher order thinking skills	4.67	To a very great extent
7. Is free from bias	4.76	To a very great extent
8. Promotes manipulation of data and digital information, and encourages personal responsibility for learning	4.56	To a very great extent
Composite	4.69	To a Very Great Extent

Table 4

Relevance to Discipline of the Multi-purpose Safety Grinder Attachment (N = 66).

Item	Mean	Descriptive Equivalent
1. Aids in sharpening analytic skills needed in the course	4.74	To a very great extent
2. Aids in solving real life situations on the lessons	4.64	To a very great extent
3. Aids in having appropriate activities to the students	4.76	To a very great extent
4. Aids in applying activities to a diversity of student abilities, interests and learning styles	4.73	To a very great extent
5. Makes connection of the course with the discipline	4.68	To a very great extent
Composite	4.71	To a very great extent

Table 5

Effectiveness of the Multi-purpose Safety Grinder Attachment (N = 66).

Item	Mean	Descriptive Equivalent
1. Shows usefulness in understanding the different concepts of the subject	4.73	To a very great extent
2. Helps in responding to the students 'need of understanding the subject	4.71	To a very great extent
3. Serves as a useful and effective instructional material	4.71	To a very great extent
4. Adapts to students 'interests and abilities	4.71	To a very great extent
5. Communicates knowledge and ideas effectively	4.59	To a very great extent
Composite	4.69	To a very great extent

Table 6

Efficiency of the Multi-purpose Safety Grinder Attachment (N = 66).

Item	Mean	Descriptive Equivalent
1. Is designed to support ease of learning.	4.76	To a very great extent
2. Strengthens the learning interests of the students.	4.70	To a very great extent
3. Encourages the student to work at his own pace.	4.70	To a very great extent
4. Reinforces the transfer of learning.	4.70	To a very great extent
5. Encourages students in completing the given task.	4.76	To a very great extent
Composite	4.72	To a very great extent

Table 7

Satisfaction of the Students on The Multi-Purpose Safety Grinder Attachment (N = 66).

Item	Mean	Descriptive Equivalent
1. Offers meaningful experiences to the learners in learning the lessons	4.75	To a very great extent
2. Provides useful information, graphics and illustrations to better understand the topics presented	4.73	To a very great extent
3. Develops new knowledge and skills	4.74	To a very great extent
4. Stimulates enthusiasm for further learning	4.74	To a very great extent
5. Presents intellectually stimulating learning activities	4.74	To a very great extent
Composite	4.74	To a Very Great Extent

Table 8

Overall Evaluation of the Multi-purpose Safety Grinder Attachment (N = 66).

Area of Evaluation	Composite Mean	Descriptive Equivalent
Fit of Purpose	4.69	To a Very Great Extent
Relevance to Discipline	4.71	To a very great extent
Effectiveness	4.69	To a very great extent
Efficiency	4.72	To a very great extent
Satisfaction	4.74	To a Very Great Extent
Overall	4.71	To a Very Great Extent



Vertical Wave Power Generator

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Abstract: *The study aims to use the motion of the surface of a water environment as moving forces actuating a buoyant floating device and transmitting this force to an element that provides magnetic radiation of flux called a magnetic field. This magnetic field shall pass through a series of magnetic coiled wires resulting in a scientific phenomenon called electromagnetic induction. This electromagnetic induction's outcome results in electromagnetic forces better known as the voltage. A voltage induced shall produce current through a copper wire by its electron flow and rated as Ampere. A connected lamp in the form of a light emitting diode (LED) is used as an indicating device when a circuit is at play or have power. This current flow or electron flow from a copper wire shall pass through the terminals of the attached LED resulting in friction. Within the LED is a built in filament. Electrons flow within the LED filament to generate heat that results in illumination. Based on these basic principles, a prototype has been designed. The device demonstrates a flashing moment proving that indeed power has been generated. Tests have been conducted manually and in the actual environment itself. The results of the tests led to modifications and adaptations to serve the educational purpose of the device.*

Keywords: *vertical wave power generator, prototype*

1. Introduction

The study is a concept device that floats for its first assembly and the second assembly is more stationary in general for the generator construction. The device conceptually uses the energy exerted by the ocean waves as a concept tapping the Archimedes principle of buoyancy. Actuation in the form of reciprocating motion, magnetism and electricity generation. By these laws a device was formed and presenting these laws are specifically incorporated.

The prototype device is purposely concerted to a water environment providing water surface waves for the actuation of the generator. Similarly a manual actuation was included for initial tests verifying the prototype effectiveness beforehand. The float in the which comes in a form of a 5 gallon plastic container acts as device that rides on the water surface and an attached PVC pipe transmits and transforms the forces of the water surface into reciprocating motion.

The reciprocating part of the generator which comes in the form of a PVC pipe holds or carries two pieces of magnetic elements called neodymium rare earth magnets of spherical shape. These magnets through the reciprocating action of the PVC pipe as a rotor runs up and down depending on the float actuation. Magnets enclosed within the PVC generator cylindrical pipe magnetic wires are coiled to two hundred times on the outer portion or outer diameter of the PVC generator cylinder, technically on standby for the passage of the magnet's magnetic flux emission from the inner diameter to the outer radiating diameter.

By this action a magnetic flux passes through coiled wires induces voltage and the result of this induction electrons flow within the coiled wires. This electron flow measured in ampere distributed to the LED and as the flow of electrons passes through the lamp a bright light is witnessed, a reaction of electron flow.

1.1. Review of Related Literature

Kubala (2008) states that the voltage as potential energy proves that an energy exists and has the prospect of doing work when applied to magnetic reaction of materials specifically pointing to the materials electrons. The best material for this study is a copper wire

Robyns, Davigny, Francois, Henneton, and Sprooten (2012) posit that in Archimedes principle, any object introduced to a water surface has the potential to float provided that an amount of mass is large enough to hold an amount of water molecules are displaced from their original location when an object enters its actual position.

The academy, for the institution particularly the private property of the school the Marina Wharf, an additional signalling lamp actuated by the natural flow of waves within the breakwater barrier that shall serve as an indicating device for boats and crafts utilizing the wharf as an added feature for safety.

2. Methodology

2.1. Input (Materials)

Table 1. Materials

1. 42 cm length PVC pipe blue/ 3.2 cm outside Ø (The Stator)
2. PVC tube stopper ¾ inch
3. PVC Tube reducer ¾ inch
4. 100 cm length PVC pipe blue 2.0 cm Ø outside (The Reciprocating Rotor)
5. PVC tube reducer ¼ inch 2 pieces
6. (1) five Gallon capacity water container as float device/element (alternative).
7. 20 grams Number 25 magnetic wires/copper wires.
8. Neodymium rare earth magnets Nb40 spheres.
9. PVC tube stopper threaded blue ¼ inch
10. Light emitting diodes (LED) lamps from a dissected flashlight.
11. Electrical tapes. 2 pieces
12. Super glue 2 pieces
13. Silicone sealant 3 pieces

2.2. Input (Fabricating/assembling and measuring tools)

Table 2. Assembly and Measuring Tools

1. Butane gas canister 1 can
2. Dremel(TM) Butane gas Soldering iron.
3. Electric soldering iron with soldering lead.
4. Tube cutter 3-28mm or 1/8" to 1-1/8"
5. Hacksaw and blade
6. Carpenters ruler 3M/10 ft.
7. Vernier calliper
8. 6" adjustable wrench
9. Silicone dispenser/Gun
10. Eye protector/Goggles

2.3. The Construction of the Stator and

Rotor Assembly

1. Cut a 42 cm length 3.2 cm diameter PVC pipe. This represents as the cylindrical generator stator.

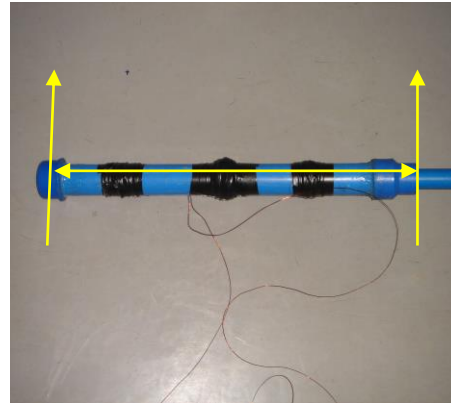


Figure 2.3.1. Stator

2. At the top end of the PVC Pipe, attach the ¾ inch tube stopper and apply silicone sealant both to the inner and outerspaces.



Figure 2.3.2. Tube Stopper

3. Through the lower end of the 42 cm length 3.2 cm diameter PVC pipe stator. Insert the Neodymium rare earth magnets Nb40 spheres.



Figure 2.3.3. Magnet

4. Insert the 100cm length PVC pipe (20 mm outside Ø) with a ¼ inch stopper to prevent free sliding. This shall serve as the reciprocating rotor to the lower end of the 42 cm length 3.2 cm diameter PVC pipe stator.



Figure 2.3.4. Reciprocating Rotor



Figure 2.3.5. Tube reducer

5. Slide the $\frac{3}{4}$ inch tube reducer to the alter end of the reciprocating rotor pipe (100cm length PVC pipe (20 mm outside Ø) and interconnect it to the 42 cm length 3.2 cm diameter PVC pipe lower end. Seal the stator and rotor together with the reducer by using the silicone sealant.

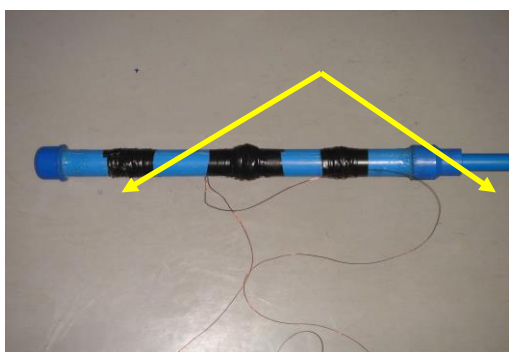


Figure 2.3.6. Finished Product

6. The finished steps should look like at figure 2.6. The figure represents a complete assembly of the generator.

2.4. The Construction of the Stator winding



Figure 2.4.1. Coiling

1. Coil 200 turns using AWG No.26 magnetic copper wires to the middle of the 42 cm length 3.2 cm diameter PVC pipe stator tube.

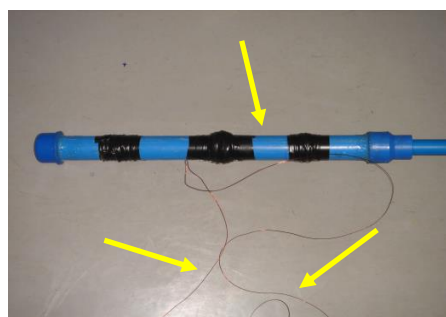


Figure 2.4.2. Extension Wiring

2. Ensure to leave extra 1 meter magnetic wires at free ends. These shall serve as the extension wires for the lamp connections. Apply electrical tape on the top of the magnetic wire for atmosphere protection and for the purpose of insulation.



Figure 2.4.3. Connecting

3. Connect the free ends of the magnetic wires in series to the LED lamps with casing provided.

2.5. The Assembly of the float mechanism1

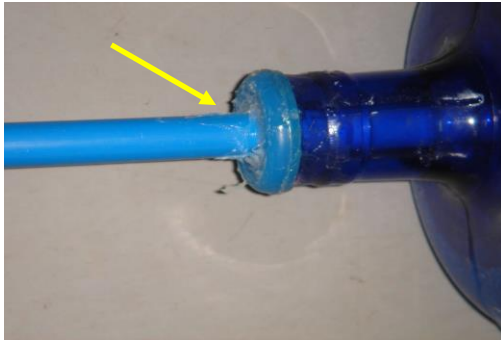
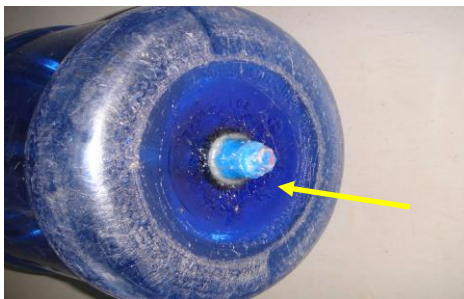


Figure 2.5.1. Holing

1. Provide a hole at the center bottom part of the (5) Gallon container and insert it with a ¼ inch threaded stopper. Apply silicone sealant.



Figures 2.5.2. Inserting

2. Provide a hole on the top end of the container and directly insert the rear free end of the rotor reciprocating shaft all the way through the inner part of the container, aligning & connecting the

two ends of the ¼ inch stopper thread and the free end of the reciprocating shaft rotor.



Figure 2.5.3. Completion

3. The completed mechanism of the float assembly shall look like as presented.



Figure 2.5.4. Overall Completion

4. Figure 2.5.4 shows the overall completed vertical wave power generator prototyping.

3. Results and Discussion

The device presented has proven that power generation is possible by vertical movements not only by rotational forces. Further, the magnetic flux emitted by magnets does produce or induce electricity regardless of application as long as the magnetic fluxes are cut through magnetic copper wires.

Replacing the float element to a smaller size resulted in less dragging forces from the waves, which improved the generator actuating delivery for the reciprocating rotor motion, resulting in a more linear reciprocating movement that enhanced the actuating upward pushing force delivery. In addition, carved measuring graduation scale had been created on the surface of the reciprocating rotor for the purpose of measuring and monitoring of the actuation process.

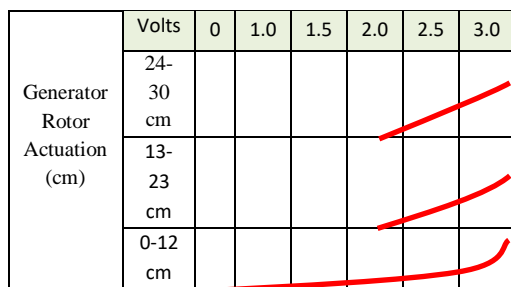


Figure 3.1. Performance test chart on actual water environment for the Vertical Wave Power Generator

Figure 3.1 represents a performance chart for the proposed prototype having eight columns and four rows. Three rows are representations for the generator rotor actuation in centimetres and the fourth row at the top indicates voltage induced. The line in red represents the actuation movement as the water pushes the actuator with an attached float.

The waves are variable but as the wave pushes the actuator from 24 to 30 cm or full actuation; the speed of the actuator movement with an attached magnet induces a variable voltage of 2.8 to 3.0 volts AC.

Similarly, when the prototype is subjected to an actuation done manually a full actuation of 24 to 30 cm induces a 2.8 to 3.0 volts AC as shown in Figure 3.2 below.

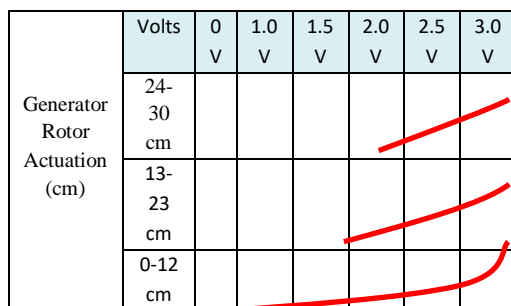


Figure 3.2. Performance test chart on manual actuation for the Vertical Wave Power Generator

The prototype attests that vertical power generation for a generator is a reality as long as the design of a similar device stays within the boundaries or within the principle of electricity and magnetism. The future researchers may want to figure out a new design, a new mechanism that shall drive the magnetic radiation or fluxes through a series of wound magnetic copper wires and induce Voltage.

4. Summary

The development of the prototype was based on the applicable and existing laws on electricity. The realized design was developed through rough sketches and the device was fundamentally formed from which it serves as the basis for material handling and choosing, measurement for parts fabrication and appropriate tool purchases and usage for decision making.

Performance of tests in both manual actuation and to the actual environment demonstrates positive feedbacks and area for improvements both unique to each test methods. Power generation was evident by proving a flashing moment of the lamp yielding 2.8 to 3.0 Volts AC.

5. References

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Communicative Behaviors of Filipino Seafarers: Toward the Development of a Globally Responsive Maritime English Course

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Abstract: *Maritime English creatively and uniquely demonstrates communicative behaviors that enable seafarer interlocutors to successfully and effectively give and receive vital information to ensure safety of life, the vessel and the environment. As a training ground for future maritime officers, maritime institutions are expected to deliver courses that meet the need of the maritime industry, including the language of the sea. In response to the changes in curriculum and the challenges of communications at sea, this study aims to describe the communicative behaviors of Filipinos onboard international merchant marine vessels. Specifically, it sought to answer the following questions: a.) How may the behavior of Filipino seafarers be described along the following areas- verbal communication, non-verbal communication, cross-cultural communication, listening, and creating healthy communicative relationships?; b.) Is there a significant difference in the behaviors of Filipino seafarers when they are grouped according to their field of work?; c.) In what areas of communicative behavior do the Filipinos need to improve?; d.) What Maritime English course can be developed to address the areas that need improvement and to ensure global communicative competence of Filipino maritime students? One hundred eighty-seven (187) students of the Maritime Academy of Asia and the Pacific (MAAP) who have gone onboard for their shipboard training and 127 active Filipino seafarers were the participants of the study. Results show that: a.) Filipino seafarers practice desirable communicative behaviors often; b.) the deck and the engine group significantly differ in their communicative practices; c.) the engine group needs to practice using English and focus on the situation at hand more often. These findings were used as one of the bases of the design and development of a responsive maritime English course.*

Keywords: *communicative behaviors, Maritime English, globally responsive course, Filipino seafarers, maritime education and training (MET) institutions*

1. Introduction

Communicative behavior is a “range of standards and traditions of communication of people” (Kabybekova, Ashirimbetova & Akhmetzhanova, 2014, p. 29). It includes acts that interactants do with their words and gestures like listening, clarifying, deliberating and discussing, among other things (University of Pittsburgh, 2007). The standards vary from culture to culture or from nation to another. Thus, it is imperative that interlocutors become culturally aware and sensitive in order to avoid miscommunications related to culture insensitivity.

Kotorova (2014) adds that interlocutors as the representatives of linguo-socioculture determine the norms of communication. Since they come from different backgrounds, they bear and exhibit ‘peculiarities.’ These peculiarities are defined by socio-pragmatic, cultural, situational and linguistic factors (p. 186).

In the maritime context, the communication space and the interactants are unique. Given this nature, competence is required so that communication difficulties may be avoided. Seafarers who come from different parts of the world carry with them their unique cultures and their language. The latter, having resulted in serious accidents, gave birth to the creation of the Standard Marine Communication Phrases (SMCP).

Since its adoption in 2000, SMCP has helped solve the problem of communication barriers

and issues on board. With the use of simplified and codified English between and among seafarers, it became relatively easier to convey vital information that affects ship operations. However, accidents still occur due to human factors, specifically communication breakdowns (Nakazawa, 2014; Ion, 2012; Popescu & Varsami 2010; Pyne & Koester, 2005). These communication breakdowns do not only happen between seafarers but also in the other fields, like caregivers and their patients, who have different languages (Pressman, Pietzyk & Schneider, 2011).

Maritime Education and Training (MET) institutions play a vital role in solving the issue on communication breakdowns and barriers on board merchant vessels (Baylon & Santos, 2011; Rashed & Kamal, 2010; Horck, 2008). Karthik (2014) specifically focused on the need to develop among maritime students/trainees intercultural communicative competence. MET institutes prepare and train future seafarers for the kind of life at sea; therefore, these academic institutions have the responsibility of ensuring the maritime students' competence in all aspects- technical, social, psychological and communicative, among others.

The Maritime Academy of Asia and the Pacific (MAAP) as one responsive and quality maritime education institution meets the challenge of providing competent future seafarers through updated and regularly evaluated course specifications and manuals. Under the regulatory and monitoring body of the Commission on Higher Education (CHED), MAAP has to follow the curriculum set, including the courses that have to be delivered. However, the CHED mandate does not specify the topics for each course. It is in the school to decide which topics are to be included. It is within this premise that this study is conducted, to have at least a basis in determining the topics to be included in one of the newly required course, Speech Communication with SMCP.

Miscommunication is inevitable but it is not caused solely by misunderstanding other speakers because of their speech behavior; miscommunication is also caused by cultural differences. The more one knows about other people's culture, the better the communication. This assertion is grounded on the theory that

language is culture specific, and when one communicates, he or she also shares his/her culture (Guessabi, 2016). With the ship being manned by seafarers from different cultural backgrounds, it is imperative that each one of them become aware of each other's culture to avoid conflicts that may lead to accidents.

The Standards of Training, Certification and Watchkeeping of Seafarers (STCW) including the Manila Amendments (2011) necessitates that seafarers have competence in speaking and writing in English, the language of the sea. However, the specifics on how to achieve this competence are not given in the tables of specifications of minimum standards. It is up to the concerned institution to design its curriculum to meet this requirement.

Parsons, Potoker, Progoulaki, and Batiduan (2011) noted that maritime graduates are not very skilled in communication, among other things. It was also emphasized in this assembly that there is a need for maritime students and active seafarers to acquire cross-cultural competence for them to have cross-cultural awareness and be able to adapt to the multi-lingual crew on board. Also, it was found out that maritime institutions do not offer courses that address this issue as this is not yet mandated by the International Maritime Organization (IMO) or the STCW Code.

Badawi and Halawa (2003) stressed the need for education programs to address "the problem of communication between multilingual and multicultural ship crew members" and study "the problems that may arise due to cross cultural differences." They specifically covered cultural barriers like speed and rhythm of communication, tone and volume of voice, pausing in speech, gestures and eye contact, among others. Furthermore, Rehman (2007) recommended in his dissertation that IMO develop model courses on communication skills and cultural awareness and that STCW specifically include this as one of the required competencies.

Though Tran (2007) focused on cultural sensitivity, he also expressed the need for maritime institutions to include this as a course in their curriculum as this will also address the problem on miscommunications or

misunderstandings among the multilingual crew on board.

The aforementioned papers have expressed a common concern, that is, the need to explicitly include cultural awareness in the honing of communication skills of seafarers. The use of SMCP, though very helpful, does not totally address the problem of communication breakdowns between and among crew members of different nationalities or cultural backgrounds. Also, as used in spoken communication, other factors like gestures, the tone of voice, facial expression and other non-verbal forms of communication seem to be excluded in the trainings of future seafarers.

As an attempt to address the aforementioned concerns, the following objectives were formulated to guide the conduct of this study: describe the behavior of Filipino seafarers along verbal communication, non-verbal communication, cross-cultural communication, listening, and creating healthy communicative relationships; determine if there is a significant difference in the behaviors of Filipino seafarers when they are grouped according to their field of work; identify areas of communicative behavior that need improvement; and develop a course manual that addresses the areas that need improvement and ensure global communicative competence of Filipino maritime students.

2. Methodology

2.1. Research Design

This study employed the descriptive method as it aimed to describe a situational area of seafaring, which is communication. The researcher did not control the communicative situation; she just presented a picture of it based on the impression of the respondents, the seafarers themselves. In addition, it also made use of the common descriptive research tool, a questionnaire, in gathering data.

2.2. Data Gathering Tool

To satisfy the objectives of the study, a researcher-designed questionnaire that is based on the book of Fujishin (2009) was used. The data-gathering instrument is composed of five main parts addressing the variables under the first problem. These five main parts are:

creating expressive verbal communication with 13 statements; creating supportive nonverbal communication with five statements; creating communication with another culture (cross-cultural) with nine statements; creating receptive communication as a listener with nine statements; and creating healthy relationships (relational) with seven statements. Before the administration of the questionnaire, the researcher had it content validated by one PhD in English, one PhD in Educational Management and three PhD candidates. Their suggestions were incorporated in the final version.

2.3. Participants of the Study

There were 314 active seafarers and MAAP cadets who answered the questionnaire. The population includes 45 ratings, 60 operational level officers, 22 management level officers, 94 deck cadets and 93 engine cadets. Also, these respondents were divided into two, the deck group and the engine group, to have a clearer basis for designing the course specification for Speech Communication with IMO SMCP.

For the midshipmen of MAAP, the researcher distributed the questionnaire and had the participants personally write their answer to each item. For the active seafarers, the data was gathered through online communication, mostly through Facebook Messenger.

2.4. Data Analysis and Interpretation

The Cronbach Alpha determined the reliability of the items in the questionnaire to be 0.92, suggesting high internal consistency. Further, weighted means were computed for the responses of the population in the different areas of communicative behavior. Significant differences of means across different groups were determined using Analysis of Variance (ANOVA) since this statistical tool is appropriately used to determine significant differences between two or more groups (Hechanova & Hechanova, 2002). Moreover, the level of significance was set at .05. All these statistical computations were carried using SPSSv18 which readily provides the probability values for comparison with the significance level.

For the interpretation of table on the communicative behaviors of Filipino seafarers, the following scale was used:

Scale of Means	Descriptive Equivalent/Interpretation
1.00 – 1.49	Never Practiced
1.50 – 2.49	Rarely Practiced
2.50 – 3.49	Sometimes Practiced
3.50 – 4.49	Practiced Often
4.50 – 5.00	Always Practiced

3. Results

Based on the responses of the participants, the paragraphs and the table that follow present the answers to the specific questions raised by this study.

3.1. How may the behavior of Filipino seafarers be described along the different areas?

All the respondents exhibit all the desirable areas of communication as they practice these often. Among these areas, creating expressive verbal communication has the lowest rating ($M = 4.01$, $SD = .45$). This area covers the manner of oral communication of Filipino seafarers, including their use of gestures, their pronunciation, their pacing and their attitude toward their statements and other people's statements. On the other hand, cross-cultural communication has the highest rating ($M = 4.21$, $SD = .49$) among the different areas.

3.2. Is there a significant difference in the communicative behaviors of Filipino seafarers when they are grouped according to their field of work?

Using ANOVA, significant differences were detected ($f < 0.05$) among the different groups of participants, namely the active deck seafarers, MAAP deck cadets, MAAP engine cadets and the active engine seafarers. Using the least significant difference (LSD) test, it was identified that the significant differences lie between the deck group and the engine group, except for the area of creating healthy relationships where the mean score of active deck seafarers significantly differ from the mean score of MAAP deck cadets, from the mean

score of active engine seafarers and from the mean score of the MAAP engine cadets.

Though it is indicated in the overall row and columns that the two groups have composite means equivalent to 'practiced often,' the deck group is performing the specific communicative behaviors more often than the engine group. This difference is shown by the mean scores of the respondents: active deck seafarers ($M = 4.25$, $SD = .50$); MAAP deck cadets ($M = 4.18$, $SD = .38$); active engine seafarers ($M = 4.04$, $SD = .39$); and MAAP engine cadets ($M = 4.00$, $SD = .37$). It can also be seen that the active deck seafarers have the highest mean score, indicating that they exhibit the desirable communicative behaviors more often than the other respondents.

3.3. In what areas of communicative behavior do the Filipinos need to improve?

To answer the question above, this study focused on those specific items where the respondents have the lowest mean score. Using the statements under the five areas, this study determined the practice/s where the Filipinos need some improvements. There are 43 statements for all the five areas. Out of these statements, 41 are practiced very often by the Filipino seafarers while two are sometimes practiced, one by engine cadets and the other one by active engine seafarers.

There are 13 statements of practices under the first area Creating expressive verbal communication as shown. Filipino seafarers as a whole have the lowest score for the statement "I comment about other people's behavior, and not on what I imagine them to be" with a mean of 3.54 (practiced very often). Taken as separate groups, the active deck seafarers have the lowest score for the statement "I comment about other people's behavior, and not on what I imagine them to be" with a mean of 3.53 (practiced very often); and the active engine seafarers have the lowest score for the statement "I focus on what other people say, not on why they say it" with a mean of 3.10 (sometimes practiced). For MAAP deck cadets, the statement "I comment about other people's

behavior, and not on what I imagine them to be” got the lowest score of 3.73, interpreted as practiced very often. The engine cadets, on the other hand, sometimes use English when they communicate with their crewmates that is why this statement got the lowest score of 3.33 or sometimes practiced.

The next area of communicative behavior, creating supportive nonverbal communication, has five specific practices. As noted, all the respondents got the lowest score for the statement “I use touch to reinforce my message, but with caution, taking into consideration the cultural differences and individual preferences of people I talk with” with a general mean of 3.83 (practiced very often). Grouped individually, each group obtained the following mean scores with the same descriptive equivalent of practiced very often: 3.91 for active deck seafarers, 3.60 for active engine seafarers, 3.94 for deck cadets, and 3.81 for engine cadets.

The third area of communicative behavior deals with how the Filipino seafarers treat cultural diversity on board and how they communicate with those who are from other countries and cultural backgrounds. While the Filipino seafarers practice very often the specific behaviors itemized in the questionnaire, they got the lowest mean score for the items, “On board, I go out of my cultural comfort zone, take the risk and experience new things with my crewmates who belong to other cultures” and “I ask my crewmates about their culture, perceptions, thoughts and feelings so I can increase my cultural frame of reference and so they can open up and feel comfortable with me.” The different groups of respondents had the lowest mean scores for the following items: Active deck seafarers- “On board, I go out of my cultural comfort zone, take the risk and experience new things with my crewmates who belong to other cultures” (4.05); Active engine seafarers- “I increase my cultural reference to include more people by enlarging my circle of ‘us’ to include more of ‘them’” (3.91); deck

cadets- “I ask my crewmates about their culture, perceptions, thoughts and feelings so I can increase my cultural frame of reference and so they can open up and feel comfortable with me” (4.10); engine cadets- the same with deck cadets but with another statement having the same mean value of 4.01 and that is “I create a communicative place where the other person from a different culture and I can meet and share human experiences.”

For the fourth area of communicative behavior, creating receptive communication as a listener, the Filipino seafarers perform the specified statements very often with their composite mean of 4.10. They got the lowest mean score of 3.83 (practiced very often) for the statement “When I communicate with my crewmates, I attend to them nonverbally with appropriate touching of support.” Taken as separate groups, both the active deck and engine seafarers scored lowest in the same statement (When I communicate with my crewmates, I attend to them nonverbally with appropriate touching of support) with mean values of 3.78 and 3.69, respectively. Aside from the said statement, the active engine seafarers also scored 3.69 in the statement “When I communicate with my crewmates, I put aside my opinions, my preferences, and my prejudices.” For deck cadets, they have the lowest mean score for the statement “When I communicate with my crewmates, I attend to them nonverbally through silence.” For the engine cadets, they have the same item with the active engine seafarers. The engine cadets are also lowest in practicing the statement “When I communicate with my crewmates, I put aside my opinions, my preferences, and my prejudices.”

The last area of communicative behavior is creating healthy relationships, which deals with how Filipino seafarers reach out to others and how they maintain good working relationships with their crewmates. Of all the seven statements under this area, the Filipino seafarers got the lowest mean score of 3.98 (practiced

very often) in the statement “I open up to my crewmates.” The active deck seafarers, active engine seafarers and the engine cadets are also lowest in the same statement with respective mean scores of 4.18, 3.93, and 3.73; all have the same descriptive equivalent of practiced very often. The deck cadets are lowest in the statement “When I communicate with my crewmates, they become better” with a mean score of 4.06 (practiced very often).

4. Discussion

Based on the findings, this paper concludes that Filipino seafarers, including those maritime students who have gone on board for their shipboard training, are communicatively competent as evidenced by their practicing often the ideal behaviors of effective interlocutors. Filipino seafarers got the highest mean score in the area of creating communications with another culture probably because Filipinos are a blend of different races (Andres, 2006) and this perhaps makes them flexible and adaptive.

The significant differences in the communicative behaviors of the deck and the engine group, with the deck group performing the pre-determined behaviors more than the engine group, may be explained by the nature of their job. The deck people are exposed to a lot of communication opportunities since they are the ones who usually talk and negotiate with other people aside from the crew members. They face port authorities, surveyors, agents, and they are the ones communicating with other ships.

Engine people have very limited time to communicate between and among themselves. And when they do, they use sign language because the engine area is very noisy. During toolbox meetings, only one is talking most of the times and the meeting lasts for 10-15

minutes, and then they go to their respective job assignments. For the deck, when they have their watch, the bridge is a good avenue to communicate so they exhibit the behaviors often, and they have more chances to make the necessary communication adjustments.

Looking at the bigger picture, Filipino seafarers are mostly men and the shipping industry is dominated by men so this must be the reason why they do not always use physical touch to reinforce their message. They may not be very comfortable with it. About culture, though it was mentioned that Filipinos can adjust easily, they may also be encouraged to be more interested in knowing and welcoming other cultures in their circle. Also, they may also be encouraged to talk about their own culture to the other nationalities on board. Through these, they can totally avoid having conflicts with their crewmates because of cultural differences.

While Parsons, Potoker, Progoulaki, and Batiduan (2011) mentioned that there was no explicit inclusion of cultural awareness in the maritime courses curriculum, this study proves that Filipinos are still able to cope with cultural differences. They might just need to continue improving their verbal communication behaviors as this came out to be where they performed the least. This paper recommends that Filipino maritime students be trained to speak English at all times, to focus on the message and not its reason, and to always use SMCP in their internal and external communications.

For a start, the researcher advances the inclusion of all the areas of effective communication in the Maritime English course manual to be designed. This will ensure that maritime students are equipped with the skills in all areas of communication. The new course of Maritime English has the descriptive title ‘Speech Communication with SMCP.’ This means that the oral communication skills of the cadets or any maritime student should be developed, honed and enhanced. Even so,

speech communication does not cover speaking only; it also includes those nonverbal aspects that accompany the spoken message, the gestures, body movements, facial expression and other behaviors like listening. Hence, speech communication as a course should be delivered in its totality.

For several years, Maritime English course has focused on using SMCP. The students were brought to the simulation centers and were guided and practiced to appropriately use SMCP in their internal and external communication. This has yielded very positive results as evinced by the communicative practice of the respondents. Nevertheless, the gauge of actual performance from the viewpoint of recipients or those whom these Filipino seafarers interact with is currently unavailable, and this study recognizes that shortcoming. In addition, the nonverbal, listening and intercultural communication skills of the maritime students were not specifically and definitely taken up during the duration of the course. They are just mentioned as part of the communication process.

For the course manual to be developed, opportunities for using SMCP should be maximized while making sure that students are trained to practice the ideal listening and nonverbal skills, and intercultural communication skills. These have to be taken as separate topics, so they are given due and ample time. More specifically, culture and how it affects communication have to be given importance in the development of the course. As Guessabi (2016) said, “language is culture and culture is language.” This area has always been taken for granted. The *Appendix* presents a proposed course specification for Speech Communication with SMCP. It contains the suggested terminal learning outcomes and the topics to be covered.

Facilitators in the maritime sector may also have a vital role to play in making sure that these students are equipped with communication

skills needed on board multilingual and multicultural crew. As Noble (2011) noted, teachers may encourage the maritime students early on to move out of their comfort zones or circles of friends and company to welcome and be with those from other ethnic and language groups. This way, they get used to being blended with other people who do not belong to their “circle” as early as possible. This eventually results in the maritime students being comfortable working with other people, thereby avoiding problems that may occur due to cultural and linguistic differences.

The findings of this study may also be said to neutralize the suggestions of Badawi and Halawa (2003) and Rehman (2007) on the need to include cross-cultural differences or cultural awareness and communication skills in the course offerings. Filipino seafarers showed in their responses that they have no problem with their communication skills and their communication with other cultures. Nevertheless, these areas need not be neglected in their training and education. They should be further strengthened through inclusions of practiced and natural conversations with other nationalities in the course. Going further, immersions or exchange students programs with other maritime schools outside the country may also be arranged.

Considering the huge number of Filipino seafarers manning the different ships around the world, this study acknowledges the fact that the data may not represent the whole population of Filipinos working at sea. Also, while this study proved that the participants are communicatively competent, no data was gathered from those whom they interact with. Moreover, the researcher did not separate those respondents who work with a multilingual crew and a full crew. This variable may have affected the outcome of this study.

With the limitations mentioned above, this paper suggests a conduct of a more thorough and more comprehensive research that includes

the feedbacks of the recipients of the messages, observation of the communicative behaviors of Filipino mariners, interview with the respondents, and an inclusion of a bigger population.

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Appendix

Proposed TLO's and Topics for Speech Communication with IMO SMCP

Course: Speech Communication with SMCP

Terminal Learning Outcomes:

TLO1- illustrate and explain the communication process specifically considering the aspects of listening and culture;

TLO2- deliver an argumentative/position speech using appropriate kinesic communication strategies;

TLO3- listen and respond appropriately to messages conveyed in a role play;

TLO4- use SMCP in internal and external communications during the different ship operations.

Topics:

1. Communication (18 hours)
 - a. What is communication? (3 hours)
 - b. The role of listening in communication (6 hours)
 - c. The role of culture in communication (3 hours)
 - d. The communication between and among multilingual crew (3 hours)
 - e. Non-verbal communication (3 hours)
2. Oral modes of communication (15 hours)
 - a. Daily conversations, focusing on on-board communications (5 hours)
 - b. Extemporaneous speech (5 hours)
 - c. Argumentative speech (5 hours)
3. Standard Marine Communication Phrases (15 hours)
 - a. What is SMCP? (1 hour)
 - b. The role of SMCP in shipping (1 hour)
 - c. Using SMCP in internal communications (7 hours)

- d. Using SMCP in external communications (6 hours)
These specific topics for internal and external communication will vary by program (Marine Engineering and Marine Transportation).



Assessment of Code-Switching: Its Function on the Teaching-Learning Process

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Abstract: *Effective communication enables us to improve our connections and decision-making. On the other hand, speakers are either multilingual or multi-cultural; this results in engaging into two or more languages – including dialects. Speaker may code-switch in any conversation, but this act is surely intended for a concrete purpose. The study is mainly focused on the code-switching activity of 17 selected maritime instructors from both Deck and Engine Department and selected fourth class midshipmen coming from 7 sections of Deck and 8 sections of Engine comprising of 251 midshipmen out of its total number 494. Data for the present paper were collected from the respondents through classroom observation, interview, and survey questionnaire. Findings showed that apart from the purpose of code switching, the occurrence of the activity is also highlighted in which the subject of the students is taken as an important factor on engaging code-switching. It is noted that code switching may be used as a useful strategy during classroom interactions if the aim is for better understanding and/or for knowledge transfer. The Department of Academics in cooperation with the English instructors should initiate the “rebirth” of the EOP. The implementation must be strict. Faculty members may enhance the communicative competence of the midshipmen through various experiential activities. Thus, a continuous monitoring on code switching must be done.*

Keywords: *Bilingualism, Code-switching, Communicative Competence, EOP, Multilingualism*

1. Introduction

Code-switching is a widely observed phenomenon particularly in a multilingual and

multicultural community (Sert, 2006). People who have learned two or more languages demonstrate code-switching by mixing words or phrase from two tongues together during the course of the speech. This is a manifestation that a speaker is competent in two or more languages or dialects to express ideas, emotions, feelings, intentions or communicative purposes.

Classroom instructions are the most valuable experience for learners on learning second language –the English language. Learners who are multilingual and multicultural individuals are sharing standard classroom instructions. The learners' limited exposure to English language due to insufficient input from the natural environment leads the learners or the teachers to apply the intervention of code switching. However, this intervention plays a vital role and effect in the language-learning process.

Maritime Academy of Asia and the Pacific is a non-stock, non-profit maritime higher educational institutions which is owned, developed and operated by the Associated Marine Officers' and Seamen's Union of the Philippines (AMOSUP). MAAP is one of the educational institutions which is embodied by faculty members and cadets (midshipmen and midshipwomen) around the Philippine archipelago. The academy is also known for its English language promotion. The Department of Academics has implemented one of the Academy's regulations of EOP which is English Only Policy. This aims and promotes the use of English language in communicating with anyone within the Academy. With this endeavour, considering that faculty members and cadets are multilingual and multicultural, the process of EOP may have possible interferences. Faculty members and cadets in some instances use code switching (specifically in teaching and instructions) on some basic functions during a conversation which may be

regarded beneficial in language learning environments.

This study proposes to assess the Function of Code Switching During Classroom Instruction of Instructors and Freshmen Midshipman and review the present status of English language proficiency of both instructors and cadets in the academy. Further, the study does not promote the use of code switching nor defeat the implementation of EOP set by the academy. This solely focuses on investigating the influence of code switching activity and the speakers' purposes on using EOP during classroom instructions. The results and findings of the study will be beneficial on providing a basis for language proficiency that may aid a better way of learning and using code switching as needed.

The present study aims to assess the functions of code switching during classroom instruction of selected MAAP maritime professionals and freshmen midshipman for AY 2016-2017 which will serve as a basis for language enhancement. Further, it seeks to answer the following questions: What are the maritime subjects which have the most occurrences of code switching during classroom interaction? How often do teachers code switch for the purpose of: self-expression; interpersonal relationship; better understanding; and knowledge transfer? How often do cadets code switch for the purpose of: defense mechanism; filling the gaps; better understanding; and self-control? What is the most and least dominant purpose of maritime instructors in code switching? What is the most and least dominant purpose of cadets in code switching?

As cited in the study of Jingxia (2010) Wardhaugh pointed out that the term code is a neutral term rather than terms such as dialect, language, style, and pidgin which may arouse emotions. Code can be used to refer to "any kind of system that two or more people employ for communication" (p.86).

In a study by Sert (2006) about the possible applications of code switching in educational contexts in the bilingual community, he finds its function is to bring an authenticity to a conversation and to help the reader better deduce the ideas being communicated. In this study further factors that determine code-

switching among students include: equivalence, floor holding, reiteration, and conflict control.

Throughout the study, the activity of code switching in a typical classrooms interaction is presented concerning to its purpose. Following the usage of students' and teachers' code-switching, weak and strong sides are discussed to clarify the phenomenon with the different perspective.

A study conducted by Kim (2016) on reasons and motivations for code-mixing and code-switching presents why bilinguals mix two languages and switch back and forth between two languages and what triggers them to mix and switch their languages when they speak. These bilingual phenomena are called 'code-mixing' and 'code-switching' and these are ordinary phenomena in the area of bilingualism. This is supported as cited in the study of Shay (2015) that states that during the last twenty years, there has been a sharp rise of scientific interest in phenomena of bilingual speech, and especially in code-switching (Auer, 2013). As defined by Wei (2013), bilingualism and multilingualism are very similarly. They claim that both phenomena refer to the coexistence, contact and interaction of different languages in society or in an individual

Jagero and Odongo (2011) as cited by Inuwa, Christopher and Bakrin (2014) upholds that code switching is a normal bilingual behavior. Yusuf (2012) disputed that code switching is a conscious practice that usually appears in the course of the conversation between bilinguals.

With respect to all points mentioned above, it may be suggested that code switching in a classroom scenario is not always a blockage or deficiency in an institution implementing English Only Policy, but may be considered as a useful strategy in classroom interaction, if the aim is to make meaning clear and to transfer the knowledge to students in an efficient way. Yet, it should be kept in mind that in the long term, when the students experience interaction with the native speakers of the target language; code-switching may be a barrier which prevents mutual intelligibility. Accordingly, the teacher has a vital role in preventing its long-term damages on the foreign language learning process.

As quoted in the study on the Factors of Code Switching among Bilingual English Students in the University Classroom Bista (2010) cited Ayeomoni (2006) on the factors of code switching, which are: intra-group identity, poetic creativity and the expression of modernization. Reyes (2004) writes that children switch codes when they do not know the word in the acquired or target language. Other research findings have indicated that one of the major factors of code switching is that elements of the other language convey the meaning of the intended idea more accurately (Gumperz, 2004).

In a study conducted by Bista (2010) she enumerated factors on using code switching: to maintain privacy; to make it easier to speak in their own language than to speak in English; to avoid misunderstanding and being unfamiliar with similar words in English.

Thus, different purposes are deemed to be significant in engaging one in code switching. As stated in above-mentioned literature and studies, the present study also provides different purposes on the involvement of code-switching activity.

2. Methodology

2.1. Participants

The study is mainly focused on the code-switching activity of 17 selected maritime instructors from both Deck and Engine Department and selected fourth class midshipmen coming from 7 sections of Deck and 8 sections of Engine comprising of 251 midshipmen out of its total number 494.

2.2. Research Instrument

A survey questionnaire for both maritime instructors and cadets was validated before it was distributed. This was supported by an actual classroom observation for each section and an informal interview (conducted in a group per class), which is mainly focused on the Occurrences of Code Switching during classroom interaction on their maritime professional subjects. Survey questionnaire on identifying the purpose of cadets and instructor in code switching used a Likert Scale of 1-Always 2-Sometimes 3-Seldom 4-Never. On the

other hand, classroom interview was conducted with the midshipmen to rate the occurrences of their involvement on code-switching, having a Scale of 1-3 for BSMT (Seam1, Nav.1 and Mar.En.) and Scale of 1-4 for BSMarE (Mar.En, Drawing, EMATS, Nav.Arch).

2.3. Data Collection and Analysis

Simple random sampling was used to 4th class midshipmen in gathering their responses in presenting the purpose on code switching. Likewise, purposive sampling was used for the population of maritime instructors who are all teaching maritime subjects for the 4th class midshipmen. The answers were tabulated using descriptive statistics i.e. frequencies, percentage, means and standard deviation and cross tabulation which assessed and analyzed how many responded from respective scale 1-4. Significant levels were set as $p < 0.05$.

3. Results

Question 1: What are the maritime subjects which have the most occurrences of code-switching during classroom interaction?

Table 1

Occurrences of Code-Switching on Four Maritime Subjects Taken by Fourth Class Midshipmen

Table 1.1

Occurrences of Code-Switching on BSMT Subjects Taken by Fourth Class Midshipmen

DECK			
Sections	Seam 1	Nav. 1	Mar.En
1.Hadar	1	3	2
2. Bellatrix	1	3	2
3.Aalborg	3	1	2
4. Heihachiro	1	3	2
5. Koga	1	3	2
6.Copenhagen	1	2	3
7.Alphard	1	2	3

Scale:

0.99 – 1.99 1– Most of the time

2.00 – 2.99 2 – Occasionally

3.00 – 3.99 3 – Almost Never

It is noted in Table 1.1 that among the 3 BSMT subjects taken by the 4th class midshipmen from the Deck section, it is the subject of Seamanship 1 where cadets are allowed to code switch most of the time, while in Marine Environment being engaged in code-switching occasionally and in Navigation 1 it is almost never.

Table 1.2

Occurrences of Code Switching on BSMarE Subjects
Taken by Fourth Class Midshipmen

ENGINE				
Sections	Mar.En	Draw	Emats	Nav. Arch
1.Neptunium	2	3	4	1
2.Skagen	2	4	3	1
3.Americium	2	3	4	1
4.Dane	2	1	4	3
5.Shokaku	2	1	3	4
6.Ryujo	1	2	4	3
7.Akagi	3	2	4	1
8.Hiryu	2	3	4	1

Scale:

1 – Most of the time

2 – Occasionally

3 – Rarely

4 – Almost Never

Table 1.2 presents the occurrences of code-switching among 8 section of Engine. It is highlighted that in the subject of Naval Architecture, 4th class midshipmen are allowed to code-switch most of the time. It is followed by Marine Environment wherein code-switch is used occasionally, while code-switching in the subject Drawing is rarely done. Lastly, it is evident that cadets are almost never allowed to code-switch in Engineering Materials.

Note: Factors that contributed for the students to code switch are considered to be subject-related.

Question 2: How often do teachers code-switch for the purpose of: self-expression; interpersonal relationship; better understanding; and knowledge transfer?

Table 2

Number of Maritime Instructors using Code-Switching on Different Purpose Based on Survey Questionnaire and Classroom Observation

Purpose on Code Switching	Number of Maritime Instructors	Description
1. Self-Expression	9 out of 17	Sometimes
2. Interpersonal Relationship	6 out of 17	Seldom
3. Better Understanding	8 out of 17	Sometimes
4. Knowledge Transfer	8 out of 17	Sometimes

Scale:

1 - Always

2 - Sometimes (70% of the chances when I could)

3 - Seldom (50% of the chances when I could)

4 - Never

It can be seen from the data from Table 2 that most of the maritime Instructors code-switching for self-expression; only few engage themselves in code-switching due to better understanding and knowledge transfer. Likewise, they code switch the least for interpersonal relationship. (This is supported by the results in Question #4.)

Question 3: How often do cadets code switch for the purpose of: defense mechanism; filling the gaps; better understanding; and self-control?

Table 3

Summary on Cadets' Involvement on Code-Switching out of Four Purposes Based on Survey Questionnaire and Classroom Observation

(See Attachment of Table 3 in Appendices)

It is evident from Table 3 that out of 15 sections from both Deck and Engine, 11 sections were code-switching solely for the purpose of having a Better Understanding of the lesson. Only 4 sections used code switching for Self-Expression and Better Understanding. (This is supported by the results in Question #5.

Question 4: What is the most and least dominant purpose of maritime instructors in code-switching?

Table 4

Occurrence of Instructors' Code-Switching on Different Purposes

Instructor	Table 4.1 Self-Expression				Total
	1 Always	2 Sometimes	3 Seldom	4 Never	
A	0	1	0	0	1
B	0	0	1	1	1
C	0	1	0	0	1
D	1	0	0	0	1
F	1	0	0	0	1
G	0	1	0	0	1
H	0	1	0	0	1
I	1	0	0	0	1
J	1	0	0	0	1
K	1	0	0	0	1
L	1	0	0	0	1
M	0	1	0	0	1
N	0	1	0	0	1
O	0	0	1	1	1
P	0	1	0	0	1
Q	0	1	0	0	1
R	0	1	0	0	1
Total	6	9	2	2	17

As reflected in Table 4.1, 9 out of 17 maritime instructors code switch for the purpose of expressing themselves, “Self-Expression.” It is indicated that they engaged in code-switching just “Sometimes.”

Instructor	Table 4.2 Interpersonal Relationship				Total
	1 Always	2 Sometimes	3 Seldom	4 Never	
A	0	0	1	0	1
B	0	0	0	1	1
C	0	0	1	0	1
D	0	1	0	0	1
F	1	0	0	0	1
G	0	1	0	0	1
H	0	0	1	0	1
I	0	1	0	0	1
J	1	0	0	0	1
K	0	1	0	0	1
L	1	0	0	0	1
M	0	1	0	0	1
N	1	0	0	0	1
O	0	0	1	0	1
P	0	0	1	0	1
Q	0	0	0	1	1
R	0	0	1	0	1
Total	4	5	6	2	17

It can be gleaned from Table 4.2, that out of 17 maritime instructors, 6 of them were involved in code-switching activity for the purpose of interpersonal relationship- talking in privacy.

Instructor	Table 4.3 Better Understanding				Total
	1 Always	2 Sometimes	3 Seldom	4 Never	
A	0	1	0	0	1
B	0	0	0	1	1
C	0	1	0	0	1
D	0	1	0	0	1
F	0	1	0	0	1
G	0	1	0	0	1
H	0	0	1	0	1
I	1	0	0	0	1
J	0	1	0	0	1
K	1	0	0	0	1
L	1	0	0	0	1
M	0	0	1	0	1
N	1	0	0	0	1
O	0	1	0	0	1
P	1	0	0	0	1
Q	0	1	0	0	1
R	1	0	0	0	1
Total	6	8	2	1	17

Table 4.3 provides data on using code-switching for the purpose of Better Understanding. Out of 17 maritime instructors, 8 of them code switch only sometimes making the lesson to be further understood.

As shown in Table 4.4, out of 17 maritime instructors, 8 of them engaged on code-switching only “sometimes” for the purpose “Knowledge Transfer.”

Instructor	Table 4.4 Knowledge Transfer				Total
	1 Always	2 Sometimes	3 Seldom	4 Never	
A	0	1	0	0	1
B	0	0	0	1	1
C	0	1	0	0	1
D	0	1	0	0	1
F	1	0	0	0	1
G	0	1	0	0	1
H	0	0	1	0	1
I	1	0	0	0	1
J	0	1	0	0	1
K	1	0	0	0	1
L	1	0	0	0	1
M	0	0	1	0	1
N	0	1	0	0	1
O	0	1	0	0	1
P	1	0	0	0	1
Q	0	1	0	0	1
R	1	0	0	0	1
Total	6	8	2	1	17

Question 5: What is the most and least dominant purpose of cadets in code-switching?

Table 5
Occurrence of Cadets’ Code Switching on Different Purposes

Table 5.1 Defense Mechanism					
Sections	1 Always	2 Sometimes	3 Seldom	4 Never	Total
AKAGI	4	8	3	1	16
HIRYU	2	7	8	0	17
RYUJO	2	7	8	0	17
SHOKAKU	2	8	7	0	17
SKAGEN	4	6	4	0	14
AMERICIUM	2	9	6	0	17
NEPTUNIUM	5	6	5	1	17
BELLATRIX	3	11	3	1	18
KOGA	1	11	6	0	18
HADAR	2	9	6	0	17
AALBORG	1	8	6	0	15
HEIHACHIRO	2	9	5	1	17
COPENHAGEN	0	7	9	2	18
ALPHARD	0	8	6	3	17
DANE	0	12	4	0	16
Total	30	126	86	9	251

Table 5.1 presents the occurrences of cadets on engaging themselves on code-switching. It is evident that out of 251 fourth class midshipmen, 126 used code-switching “sometimes” for the purpose of “Defense Mechanism.” Section Neptunium has dominantly (always) used code

switch for the said purpose, while 3 from Alphard has it to be the least considered purpose.

Sections	1 Always	2 Sometimes	3 Seldom	4 Never	Total
AKAGI	6	10	0	0	16
HIRYU	3	8	6	0	17
RYUJO	1	9	7	0	17
SHOKAKU	2	11	4	0	17
SKAGEN	4	7	3	0	14
AMERICIUM	1	14	2	0	17
NEPTUNIUM	9	7	1	0	17
BELLATRIX	4	8	6	0	18
KOGA	4	12	2	0	18
HADAR	5	10	2	0	17
AALBORG	7	2	6	0	15
HEIHACHIRO	3	9	5	0	17
COPENHAGEN	2	8	7	1	18
ALPHARD	1	11	3	2	17
DANE	3	10	3	0	16
Total	55	136	57	3	251

As shown in Table 5.2, out of 251 fourth class midshipmen, 136 has tended to code switch “sometimes” for the purpose of filling the Gaps. Section Neptunium has dominantly (always) used code-switching for the said purpose, while 3 cadets from 2 sections (Copenhagen and Alphard) have it to be the least considered purpose.

Sections	1 Always	2 Sometimes	3 Seldom	4 Never	Total
AKAGI	6	8	2	0	16
HIRYU	4	10	3	0	17
RYUJO	4	4	9	0	17
SHOKAKU	4	8	5	0	17
SKAGEN	3	6	5	0	14
AMERICIUM	4	12	0	1	17
NEPTUNIUM	10	6	1	0	17
BELLATRIX	5	10	3	0	18
KOGA	2	10	6	0	18
HADAR	3	11	3	0	17
AALBORG	6	5	4	0	15
HEIHACHIRO	4	9	3	1	17
COPENHAGEN	3	8	5	2	18
ALPHARD	5	8	4	0	17
DANE	2	12	2	0	16
Total	65	127	55	4	251

Table 5.4 provides the use of code switching from 251 fourth class midshipmen, 127 has used it “sometimes” for the purpose of “Self Control.” Section Neptunium has dominantly (always) used code switch for self-control, while 3 cadets from 2 sections (Americium and

Copenhagen) have it to be the least considered purpose.

4. Conclusion

From the findings obtained from the data gathered and analysed, the following conclusions are drawn:

First, given the Seven (7) Deck sections, it is the subject of Seamanship 1 wherein cadets code switch most of the time. Eight sections of Engine it is highlighted that it is on the subject of Naval Architecture wherein 4th class midshipmen code switch most of the time. Moreover, most of the maritime instructors code switched for self-expression; a few engaged themselves in code switching due to better understanding and knowledge transfer. Likewise, they code switch the least for interpersonal relationship purpose. Meanwhile, out of 15 sections from both Deck and Engine, 11 sections were code switching solely for the purpose of having a Better Understanding of the lesson. Only 4 sections used code-switching for Self-Expression and Better Understanding. On the other hand, most of the maritime instructors usually code switch for the purpose of Self-Expression, Better Understanding and Knowledge Transfer while a few used code-switching for Interpersonal Relationship seldom.

Indeed, the overall usage of code-switching in a classroom interaction is still considerable in a sense that it was usually used by the cadets for better understanding while maritime instructors are using it only for self-expression. Its implication brings a positive notion that both instructors and midshipmen are still adopting the IOP as classroom instruction is concerned.

Pedagogical Implications

With the awareness on the purpose used by the maritime instructors and midshipmen in engaging themselves in code-switching, continuous support and encouragement may be given to the students during classroom interaction. Allowing them to code switch will somehow bridge the gap –focused on an intended purpose–among the speakers who are considered bilingual. It is to commend both instructors and fourth class midshipmen in

strictly following the EOP rules; continuous monitoring in the occurrences of cadets' code-switching must be done during classroom interaction.

5. Recommendations

The Department of Academics in cooperation with the English instructors should initiate the "rebirth" of the EOP. The implementation must be strictly followed by the midshipmen, instructors and even the tactical officers and staffs. Faculty members may enhance the communicative competence of the midshipmen through various experiential activities during classroom interaction; exposing them with this will offer them the chance to involve themselves in speaking. Thus, continuous monitoring on code switching must be done. Future researchers may work on the same research having a wider scope with actual classroom observations and interview; this is to further attest the activities on code switching and the findings of the present study.

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Development of Intervention Program for Honor Remediation

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Abstract. This study aimed to develop an intervention program for Honor Remediatees. Method of research is descriptive with 30 male honor remediatees, as respondents. There were 12 second classmen and 18 third classmen. Respondents' academic and conduct grades during the 1st and 2nd semesters of A.Y. 2015-2016 were gathered from the Registrar's Office. Their personality scales were also identified through BPI, a 240-item standardized questionnaire with 12 basic personality scales. These 12 basic personality scales are: Hypochondriasis, Depression, Denial, Interpersonal Problems, Alienation, Persecutory Ideas, Anxiety, Thinking Disorder, Impulse Expression, Social Introversion, Self Depreciation and Deviation. The study found out that all of the respondents met the minimum competence with average, above average and over and above average scores in academics; all of them met the minimum competence with above average, over and above average and exceptional scores in conduct; majority of them had no issues that need to be resolved in most personality scales except for Denial and Persecutory Ideas scales; significant difference among the mean academic performances of the respondents, was apparent in Interpersonal Problems scale; and there was a significant difference among respondents' mean conduct performances when grouped according to Anxiety scale. Recommendations are: group discussion should be steered towards identifying ways to amend their mistakes by helping other students in coping with academic and conduct-related needs; counseling should aim to address remediatees' issues on acceptance, interpersonal relationship and anxiety and motivate them to maintain daily journal, prepare monthly action plans and reflection paper.

Keywords: Academic Performance, Conduct Performance, Honor Remediation, Intervention Program, Personality Scales

1. Introduction

The Maritime Academy of Asia and the Pacific (MAAP) attains its mission of developing competent maritime officers with good character, knowledge, and skills by providing quality education and training. Various programs and services being offered by different departments and divisions supplement the academy's mission.

One of these services focuses on character building through Midshipmen Development System, which is being enforced by the Department of Midshipmen's Affairs (DMA), and is complemented by different departments/divisions including the Guidance and Counseling Office (GCO) through other guidance services.

GCO services are enhanced or modified by identifying the needs of the students, and if needed additional programs are considered in order to address certain student needs. Apart from major GCO services namely counseling, testing, information, student inventory, and follow up, other programs such as Foster Parents Program and Exit Interview were added to address, directly or indirectly, specific needs of the students.

Given the fact that the core of DMA function focuses on the development of students' character, rules and regulations are strictly set to develop desirable character and attitude of the students. (Elchico & Ato, 2015). This character development system includes the observance of Honor Code, an essential component of the Honor System. According to the Honor Code Handbook (2011), Honor Code may mean different things to different people but to MAAP students, the Code is their bond, as it goes: "We, the midshipmen, do not lie, cheat, steal, nor tolerate among us those who do." It is the

foundation of the students' character that they may embody the description of being honorable. And violation of such code may mean termination from the academy.

Such code aims to develop leadership responsibility to students, their understanding of the importance of integrity, their will and desire to maintain an honorable lifestyle, and to strengthen their moral-ethical convictions.

The Honor System has always been perceived as very rigid and sometimes being misinterpreted in the negative sense. Thus, Honor Remediation Program has been developed to address such concern. This program covers only the first and last tenet of the Honor Code, Lying and Toleration, to give a chance for the students who committed minor violations of the Honor Code to learn from their mistakes and continue with their moral and ethical development. However, if the remediatees fail to get good conduct and academic grades, they will be terminated from the academy (Memorandum Order 091, 2015). Such becomes the reason why GCO has decided to develop an intervention program to prevent such from happening.

This Honor Remediation Program was conceptualized and developed by the Honor Board with the supervision of the DMA Director and to be enforced for the first time during the academic year 2016-2017. Although guidelines are properly set, including how GCO will take part on the remediation program, it is still necessary to determine how to distinctly carry out the prepared program by taking into consideration the group by which it would be implemented. This would ensure that the intervention program will properly resolve issues and that the program would serve its purpose well.

1.1. Statement of the Problem

This study primarily aims to address the question: What Intervention Program can be developed for students under Honor Remediation at the Maritime Academy of Asia and the Pacific?

Specifically, it sought to answer the following questions:

1. How may the performance of the respondents be described in terms of:
 - 1.1 academics and
 - 1.2 conduct?
2. How may the result of the respondents' Basic Personality Inventory be described in terms of the following scales:
 - 3.1 hypochondriasis,
 - 3.2 depression,
 - 3.3 denial,
 - 3.4 interpersonal problems,
 - 3.5 alienation,
 - 3.6 persecutory ideas,
 - 3.7 anxiety,
 - 3.8 thinking disorder,
 - 3.9 impulse expression,
 - 3.10 social introversion,
 - 3.11 self-depreciation and
 - 3.12 deviation?
3. How may the respondents' academic performance be differentiated considering their personality scales?
4. How may the respondents' conduct performance be differentiated considering their personality scales?

1.2. Significance of the Study

The Honor Remediation Program, being an important component of the Honor System, plays a vital role in providing another chance for midshipmen who have committed minor violations of the Honor Code. This program also aims to guide them regarding personal development through self-assessment and reflections. With these endeavors, the Guidance and Counseling Office (GCO) plays a significant role in the Honor Remediation Program.

Given that full implementation of the said program is new for GCO, it is but necessary to assess what intervention program can be developed and eventually be implemented based on the needs of the remediatees by analyzing aspects of their academic and conduct performance as well as their different personality scales.

Furthermore, a program which is tailored from the characteristics and attributes to which it will be implemented, ensures success as needs and requirements of the remediatees will be determined, analyzed and addressed. And

therefore, all efforts to be exerted in program implementation will be worthwhile.

It is important to note that should Honor Remediates' academic or conduct performance fail to meet the minimum competence required, they will be terminated from the academy. Thus, considering this when planning for an intervention program for honor remediation may prevent such from happening, and therefore will help the remediates a great deal as they go on with their minimum-of-5-month journey under Honor Remediation Program.

Lastly, an appropriate GCO Intervention Program will certainly support the Department of Midshipmen's Affairs (DMA) in ensuring that the purpose of the Honor Remediation Program is properly served by helping remediates realize and learn from their mistakes and help them continue with their moral and ethical development as future officers of the maritime industry.

1.3. Scope and Delimitation

This study is focused on the development of Intervention Program for Honor Remediation. Thus, respondents are limited only to Honor Remediates whose cases were assessed and investigated by the Honor Board Committee prior to referral to GCO. Bases of program development are the academic and conduct performances of remediates as well as their personality scales.

1.4. Literature Review

Honor Remediation. According to Rubel (2015) of the U.S. Naval Academy, the process of remediation primarily focuses on counseling with a capable senior staff. Session involves an intensive conversation that discusses remediates realizations on the wrongness of their actions and that their characters are assessed and examined. This Moral Remediation Program was developed within the premise of answering the questions: "Who am I? What is my moral code". "Why did I commit this offense?" and "How can I develop myself to be a graduate who is an ethical leader of character?"

Intervention Program. As the Intervention Program for Honor Remediation forms part of GCO services, Cinco (2008) stated that one of

the general considerations in organization and administration of guidance is that guidance services and programs should grow out of the interests, needs, and purposes of the students. Its concern stretches from the whole individual to his total environment and his specific needs and problems, thus implying that programs and services should be flexible in all its aspects. Thus, if there's a need for GCO program to be modified, if not developed, to answer specific student needs, then so be it, to ensure that students' needs and concerns will be properly addressed.

Hypochondriasis. Jackson (1996) describes Hypochondriasis (Hyp) as one's tendency to feel pain or weakness which may be due to psychological or emotional issues that are manifested physically. However, he emphasized that it should be taken into consideration that an elevated Hyp in the Basic Personality Inventory may indicate the past or present medical condition. On the other hand, those who have no medical history of diseases nor current medical findings may have internalized environmental stresses that affect their physical health.

Once an individual experiences physical illnesses without the presence of any medical basis, he could be diagnosed with illness anxiety disorder (IAD) which is synonymous with hypochondriasis. (Cleveland Clinic, 2015).

Depression. Jackson (1996) noted that depression is characterized by feelings of downhearted as well as feelings that self is inadequate. A depressed individual looks at the future with a negative or pessimistic view. If one's BPI result shows an elevation in the Depression (Dep) scale, he accentuated that the case should be explored thoroughly to be able to differentiate a situational or acute depression. The first indicates that depression is interconnected to his current situation, and the latter denotes chronic state.

Denial. Cherry (2016) defined denial as an individual's coping mechanism that involves an outright refusal to accept reality. In the Basic Personality Inventory, according to Jackson, an elevation of the Denial (Den) scale may mean that the individual is moderately defensive, may not recognize affective responses and tends to repress unpleasant experience or reality. A high Den scale may also indicate that the person

generally deals with stress and other unpleasant life situations through active flight or avoidance.

Interpersonal Problems. According to Jackson, an elevation in the Interpersonal Problems (IPs) scale may indicate that an individual may feel resentment towards authority or anything that sets limit or rules in his life. He may be often annoyed by life's inconveniences, frustrations or disappointments. He may exhibit behaviors that manifests his tendency to be uncooperative, disobedient and resistant to rules and regulations.

Alienation. Elevation in Alienation (Aln) scale may mean that the individual may exhibit antisocial attitudes arising from prolonged exposure to deviant subculture. Alienation may also be attributed to the effect of external factors on the environment such as peer pressure. Sociologists have noted that the alienation feeling for young people may be attributed to changes in the society, violence in the media, problems in drug and alcohol abuse and moral degradation in the society at large. (psychology.jrank.org, 2016).

Persecutory Ideas. An elevation in the Persecutory Ideas (PIs) scale indicates the individual may feel that he has been made victims by their families or by the education or justice system. Dash (2016) noted a study published by Freeman and colleagues in the British Journal of Psychology that involves the use of virtual reality to reduce persecutory ideas or delusions. Freeman and colleagues suggest that the reason why an individual continues to believe his delusion is that he engages in safety behaviors that make him feel safe, and hinder him to realize and process information that disproves his beliefs.

Anxiety. Seligman, Walker and Rosenhan (2002) defines anxiety as an unpleasant feeling of emotional chaos that is often accompanied by somatic complaints and nervous behaviors. According to Jackson, elevation on the Anxiety (Axy) scale indicates that the individual experiences high levels of psychological distress with or without the presence of specific fears or phobias. However, he noted that those with high scores in the Axn scale would be easily motivated to enter into treatment, counseling or therapy.

Thinking Disorder. Jackson (1996) suggested that elevated score in this scale indicates that the individual may be experiencing serious cognitive dysfunctions such as distortion on visual and / or auditory functions or that the individual may be experiencing severe life stresses or chaotic family life. Thus, great care in analysis of one's BPI result on the Thinking Disorder (ThD) scale is vital. Two primary components of thinking disorders are to be considered in the assessment of an individual, as one may have disordered thinking or he may have delusional thinking (Therapytribe, 2016).

Impulse Expression. According to Jackson (1996), an elevated Impulse Expression (ImE) scale indicates that the individual tends to be impulsive that may be dangerous or harmful to themselves or others. He further suggests that individuals who are depressed and considering suicide tend to be more at risk to themselves when they score high in this scale.

Social Introversion. Jackson (1996) said that this scale of personality is associated with individuals who are into solitary activities more than into social ones. Individuals may isolate themselves from others which result in a problem viewed as more complex than it actually is. Hendriksen (2016) identifies the difference between introversion and social anxiety. She suggests that introversion is inborn, and anxiety is a product of the environment.

Self-Depreciation. Elevation in the Self Depreciation (SDp) scale indicates that the individual tends to have a very poor self-image (Jackson, 1996). This is related to significant negative self-appraisals manifested in a pessimistic attitude about oneself and the future. Banim (2015) accorded that self-depreciation may harm one's self esteem, as she suggests that being too hard on oneself denies himself of achieving full happiness and self-contentment.

Deviation. Jackson (1996) accorded that high score in the Deviation (Dev) scale indicates that the individual who answered BPI may have responded non-purposely.

1.5. Hypotheses of the Study

Hypotheses formulated were: There are no significant differences among the respondents'

academic performance when grouped according to personality scales; There are no significant differences among the respondents' conduct performance when grouped according to personality scales.

1.6. Conceptual Framework

Figure 1 demonstrates the research paradigm of the study.

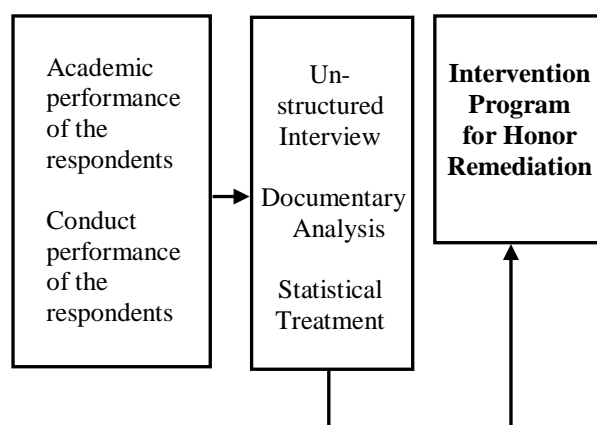


Figure 1. Research paradigm

This study adopted the Input-Output Model. Figure 1 presents the paradigm of the study where the first frame indicates the input which is comprised of data on academic performance assessed through respondents' average academic grades for the 1st and 2nd semester of A.Y. 2015-2016, conduct performance assessed through average conduct grades for the 1st and 2nd semesters of A.Y. 2015-2016 and personality scales of the respondents. Personality scales are composed of: Hypochondriasis (Hyp), Depression (Dep), Denial (Den), Interpersonal Problems (IPs), Alienation (Aln), Persecutory Ideas (PId), Anxiety (Axy), Thinking Disorder (ThD), Impulse Expression (ImE), Social Introversion (SoI), Self Depreciation (SDp) and Deviation (Dev).

The second frame presents the process by which input could be treated which involves the gathering of information on midshipmen's academic and conduct performance through an unstructured interview and documentary analysis.

The third frame shows the intended output of the study, which is the Intervention Program for Honor Remediation.

2. Methodology

This study utilizes the descriptive method of research. According to Shields and Rangarajan (2013), descriptive method is used to describe characteristics of a population or phenomenon being studied, it does not answer questions about how, when or why the characteristics occurred, but addresses the 'what' question. Respondents' academic and conduct performances, as well as the scales of their personalities are therefore identified.

Respondents of this study were the thirty (30) midshipmen who were subjected to Honor Remediation Program during school year 2016-2017 and are otherwise being referred to as remediatees.

In terms of research instrument, utilized primarily is the Basic Personality Inventory (BPI). BPI is a 240-item standardized questionnaire that measures personality and psychopathology which are scored and interpreted in twelve (12) basic clinical scales relevant to adjustment and psychopathology. These scales are Hypochondriasis, Depression, Denial, Interpersonal Problems, Alienation, Persecutory Ideas, Anxiety, Thinking Disorder, Impulse Expression, Social Introversion, Self Depreciation and Deviation.

Standard scores of 50 indicate average level on particular scale while standard scores of 51 and above indicates negative sign as there are issues which need to be resolved on corresponding scale. Scores lower than 50 generally indicate a positive sign or strength of the respondent on the corresponding scale (Jackson, 1996).

The data gathering procedure for this study involves administration of BPI test to respondents. Filled up BPI answer sheets were then collected, scored and interpreted.

On the other hand, academic performance of the respondents was requested and obtained from the Registrar's Office with their general average covering 1st and 2nd semester of academic year 2015-2016. Respondents' conduct performance was also obtained through conduct grades from the Registrar's Office.

Descriptive equivalent for each rating utilized the same remarks being used by the MAAP Registrar's Office in grading system in accordance to CMO 20 series of 2015.

The collected data were encoded and analyzed statistically using frequency and percentage, mean and standard deviation. T-Test and Analysis of Variance were also utilized to test the existing difference between and among variables included in this study.

3. Results and Discussions

As presented in Table 1, during the 1st semester, 23% and 63% got grades that meet minimum competence with over and above average score and with above average score, respectively. Meanwhile, almost 13% of the respondents got grades that meet the minimum competence with average score.

During the 2nd semester, the highest percentage of respondents at 43% got grades that meet minimum competence with over and above average score, while only 3% got the rating that meets minimum requirement with above average score and 33% got average score.

Table 1. Academic Performance of the Respondents for A.Y. 2015-2016

Academic Performance All meets minimum competence with:	1 st Semester		2 nd Semester		Average	
	F	%	F	%	F	%
Average Score (60 – 69)	4	13.3	10	33.3	9	30.0
Above Average Score (70 – 79)	19	63.3	7	23.3	10	33.3
Over and Above Average Score (80 – 89)	7	23.3	13	43.3	11	36.7
Total	30	100	30	100	30	100
Mean/Standard Deviation	75.88	4.78	75.41	8.95	75.64	6.56

Considering the average for both semesters, 37% of the respondents meet the minimum competence with over and above average score. 33% of them meet the minimum competence with above average score, and 30% meets the minimum competence with average score.

Furthermore, it can also be gleaned from the above table that the mean of grades in the 1st semester is 75.88 with a standard deviation of 4.78, while during the 2nd semester, it is 75.41 with a standard deviation of 8.95 and with an average mean of 75.64 at 6.56 standard deviation.

For the 2nd semester, 33% of the respondents meet minimum competence with exceptional score. 20% got over and above average score, and a majority of them (47%) meets minimum competence with above average score.

With regards to the average rating for both 1st and 2nd semesters, close to 37% of the respondents meet minimum competence with an exceptional score, 33% with over and above average score and 30% with above average score.

As regards to the mean of the respondents' ratings, 91.03 and 10.46 is the mean and standard deviation for the 1st semester, respectively. A mean of 85.68 with a standard deviation of 10.97 is noted for the 2nd semester. The average mean for both semesters is 88.35 with 9.57 standard deviation.

Table 2. Conduct grades of the respondents for A.Y. 2015-2016

Academic Performance All meets minimum competence with:	1 st Semester		2 nd Semester		Average	
	F	%	F	%	F	%
Above Average Score (70 – 79)	8	26.7	14	46.7	9	30.0
Over and Above Average Score (80–89)	4	13.3	6	20.0	10	33.3
Exceptional Score (90 – 100)	18	60.0	10	33.3	11	36.7
Total	30	100	30	100	30	100
Mean/Standard Deviation	91.03	10.46	85.68	10.97	88.35	9.57

Meanwhile, Table 3 presents the summary of the respondents' Basic Personality Results. Standard scores higher than 50 indicate issues to

be resolved thus described as a negative sign or a negative indication. Meanwhile, standard scores equal to 50 indicate that the individual exhibits normal characteristics of corresponding scales. And standard scores lower than 50 generally indicate the strength of the individual in a particular scale of personality and therefore described as a positive sign or a positive indication.

Table 3. Students' Basic Personality Inventory (BPI) result

Personality Inventory	Negative Sign		Normal		Positive Sign	
	F	%	F	%	F	%
Hypochondriasis(Hyp)	11	36.7	2	6.7	17	56.7
Depression (Dep)	6	20.0	-	-	24	80.0
Denial (Den)	23	76.7	-	-	7	23.3
Interpersonal Problems (IPs)	2	6.7	-	-	28	93.3
Alienation (Aln)	4	13.3	2	6.7	24	80.0
Persecutory Ideas (PId)	21	70.0	-	-	9	30
Anxiety (Axy)	14	46.7	-	-	16	53.3
Thinking Disorder (ThD)	7	23.3	2	6.7	21	70.0
Impulse Expression (ImE)	9	30	-	-	21	70.0
Social Introversion(SoI)	14	46.7	-	-	16	53.3
Self-Depreciation (SDp)	12	40.0	-	-	18	60.0
Deviation (Dev)	14	46.7	-	-	16	53.3

As shown in the table, considering Hypochondriasis (Hyp) scale, close to 37% exhibits negative sign or which may indicate the presence of issues to be resolved. Close to 7% has an average score in the Hyp scale, and close to 57% shows positive signs or strengths.

In the Depression (Dep) scale, 20% of the respondents may have issues to be addressed in the Dep scale. But a great majority of 80% indicates positive sign.

However, as regards to Denial (Den) scale, a majority of the respondents (close to 77%) shows negative sign or issues to be resolved. While 23% shows positive sign in the Den scale.

Regarding Interpersonal Problems (IPs) scale, only close to 7% shows negative sign and a great majority of 93% shows positive sign or an indication of strength.

Considering personality scale on Alienation (Aln), 13% shows a negative sign, close to 7% shows normal indication, and 80% shows positive sign or strength on the Aln scale.

Meanwhile, with regards to Persecutory Ideas (PId) scale, the majority of the respondents at 70% reveals presence of issues needed to be addressed and 30% shows positive indicator on PId scale.

In as far as Anxiety (Axy) scale is concerned, close to 47% of the respondents experience anxiety while 53% of them show positive sign in the Axy scale.

As regards to personality scale on Thinking Disorder (ThD), 23% shows a negative sign, close to 7% exhibits normal level on the ThD scale and majority at 70% shows strength or positive indications in ThD scale.

In the Impulse Expression (ImE) scale, 30% of the respondents may have issues to be resolved in the ImE scale while 70% shows positive sign or strength in this scale of personality.

Meanwhile, close to 47% of the respondents shows negative sign or issues on Social Introversion (SoI) scale while 53% show positive sign or strength in SoI scale.

With regards to Self-Depreciation (SDp) scale, 40% of the respondents shows a negative sign or an indication of the presence of issues to be addressed and 60% exhibits positive sign or strength.

Lastly, in the Deviation (Dev) scale, close to 47% shows negative sign or issues to be resolved and 53% shows positive sign or strength in Dev scale.

Considering these data, it is remarkable to note that a majority of the respondents show positive sign or no issues to be resolved in the Hypochondriasis, Depression, Interpersonal Problems, Alienation, Anxiety, Thinking Disorder, Impulse Expression, Social Introversion, Self-Depreciation and Deviation scales.

On the other hand, it is also noted that majority of the respondents show negative sign

or issues to be addressed in the Denial and Persecutory Ideas scales.

Table 4. Comparison of respondents' academic performance according to personality scales

Scales	Group	N	Mean	SD	t	Sig.	Re- marks
Hyp	Negative	13	73.16	6.88	1.89	0.07	NS
	Normal/ Positive	17	77.54	5.80			
Dep	Negative	6	74.47	6.17	0.48	0.63	NS
	Normal/ Positive	24	75.94	6.75			
Den	Negative	23	75.36	7.04	0.43	0.67	NS
	Normal/ Positive	7	76.59	5.01			
IPs	Negative	2	68.57	0.28	6.09	.000	S
	Normal/ Positive	28	76.15	6.50			
Aln	Negative	6	73.16	5.67	1.04	0.31	NS
	Normal/ Positive	24	76.26	6.72			
PId	Negative	21	74.76	6.65	1.14	0.26	NS
	Normal/ Positive	9	77.71	6.20			
Axy	Negative	14	74.06	6.64	1.25	0.22	NS
	Normal/ Positive	16	77.03	6.37			
ThD	Negative	9	75.03	7.25	0.33	0.88	NS
	Normal/ Positive	21	75.91	7.41			
ImE	Negative	9	73.96	6.43	0.92	0.37	NS
	Normal/ Positive	21	76.37	6.63			
SoI	Negative	14	75.79	6.85	0.11	0.92	NS
	Normal/ Positive	16	75.52	6.52			
SDp	Negative	12	75.60	5.43	0.03	0.97	NS
	Normal/ Positive	18	75.68	7.37			
Dev	Negative	14	74.99	6.80	0.51	0.62	NS
	Normal/ Positive	16	76.22	6.51			

NS – No significant difference between the mean conduct performances of students grouped according to Personality Scales

S – Significant difference between the mean conduct performances of students grouped according to Personality Scales

Meanwhile, Table 4 indicates the comparison of the means of respondents' academic performance for the 1st and 2nd semesters of S.Y. 2015-2016 according to personality scales.

As shown in Table 4, only on the scale of respondents' Interpersonal Problems (IPs) is there a significant difference between the mean academic performances of the respondents at 0.05 significance level. The mean value of 68.57 with a standard deviation of 0.28 can be

observed on the negative indicator on IPs scale while the normal/positive indicator on IPs scale has a mean score of 76.15 and standard deviation of 6.50.

This indicates that there are significant differences among respondents' academic performances considering the IPs scale.

On the other hand, considering the rest of the personality scales, no difference is noted between the mean academic performances of the respondents.

Note that the table utilizes the code "NS or N" under the "remarks" column. NS indicates that there is no significant difference among the mean academic performances of students grouped according to Personality Scales. While S indicates that there is a significant difference among the mean academic performances of students grouped according to Personality Scales

On the other hand, Table 5 shows the comparison of respondents' conduct performance according to personality scales

Respondents' conduct performance means indicate significant differences when grouped according to Anxiety (Axy) scale. It is noted that the mean score for the negative indicator in Axy scale is 84.29 with a standard deviation of 8.10 while the mean score for the positive indicator in Axy scale is 91.91 with standard deviation of 9.56.

This indicates that there are significant differences among the respondents' mean conduct performances according to Axy scale at 0.05 level of significance.

Meanwhile, the table shows no significant difference between the respondents' mean conduct performances when grouped according to all the rest of the personality scales.

Table 5. Comparison of respondents' conduct performance according to personality scales

Scales	Group	N	Mean	SD	t	Sig.	Re- marks
Hyp	Negative	13	86.65	9.62	0.85	0.40	NS
	Normal/ Positive	17	89.66	9.62			
Dep	Negative	6	86.84	10.56	0.43	0.67	NS
	Normal/ Positive	24	88.73	9.52			
Den	Negative	23	87.59	9.92	0.79	0.44	NS
	Normal/ Positive	7	90.86	8.53			
IPs	Negative	2	77.92	4.13	1.64	0.11	NS
	Normal/ Positive	28	89.10	9.44			
Aln	Negative	6	85.21	7.55	0.90	0.38	NS
	Normal/ Positive	24	89.14	10.0			
PId	Negative	21	87.81	10.05	0.48	0.64	NS
	Normal/ Positive	9	89.63	8.79			
Axy	Negative	14	84.29	8.10	2.34	0.03	S
	Normal/ Positive	16	91.91	9.56			
Th D	Negative	9	88.36	6.84	0.001	1.00	NS
	Normal/ Positive	21	88.35	0.69			
ImE	Negative	9	88.68	8.14	0.12	0.91	NS
	Normal/ Positive	21	88.21	0.31			
SoI	Negative	14	89.09	8.55	0.39	0.70	NS
	Normal/ Positive	16	87.71	0.63			
SDp	Negative	12	86.30	10.18	0.96	0.35	NS
	Normal/ Positive	18	89.72	9.19			
Dev	Negative	14	89.33	9.37	0.52	0.61	NS
	Normal/ Positive	16	87.50	9.97			

4. Summary and Conclusions

Based on the data gathered, collated, and interpreted, the major findings were summarized as follows:

In terms of academic performance, considering the average of 1st and 2nd semesters, 37% of the respondents met the minimum competence with over and above average score. 33% of them met the minimum competence with above average score, and 30% met the minimum competence with an average score.

With regards to the respondents' conduct performance, considering the average of 1st and 2nd semesters, close to 37% of the respondents met minimum competence with exceptional

score, 33% with over and above average score and 30% with above average score.

As shown in table 3, considering Hypochondriasis (Hyp) scale, 37% exhibited negative sign or which may indicate presence of issues to be resolved, 7% had average score in the Hyp scale and 57% showed positive signs or strengths. On the other hand in the Depression (Dep) scale, 20% of the respondents might have issues to be addressed and 80% indicated positive sign. However, as regards to Denial (Den) scale, 77% showed negative sign or issues to be resolved while 23% showed positive sign in the Den scale. In terms of Interpersonal Problems (IPs) scale, only 7% showed negative sign and a great majority of 93% showed positive sign.

Considering personality scale on Alienation (Aln), 13% showed negative sign, 7% showed normal indication, and 80% showed positive sign or strength on the Aln scale. Meanwhile, with regards to Persecutory Ideas (PId) scale, 70% revealed the presence of issues needed to be addressed and 30% showed positive sign on PId scale. In as far as Anxiety (Axy) scale is concerned, 47% of the respondents experienced anxiety while 53% of them showed positive sign in the Axy scale. As regards to personality scale on Thinking Disorder (ThD), 23% showed a negative sign, only 7% exhibited normal level on the ThD scale and majority at 70% showed strength or positive indications in ThD scale.

In the Impulse Expression (ImE) scale, 30% of the respondents may have issues to be resolved while 70% showed positive sign or strength in this scale of personality. Furthermore, 47% of the respondents showed negative sign or issues in terms of Social Introversion (SoI) scale while 53% showed positive sign or strength in SoI scale. With regards to Self-Depreciation (SDp) scale, 40% of the respondents showed a negative sign or an indication of a presence of issues to be addressed and 60% exhibited positive sign or strength. Lastly, in the Deviation (Dev) scale, close to 47% showed negative sign or issues to be resolved and 53% showed positive sign or strength in Dev scale.

It is also remarkable to note that a majority of the respondents showed positive sign or no

issues to be resolved in the Hypochondrias, Depression, Interpersonal Problems, Alienation, Anxiety, Thinking Disorder, Impulse Expression, Social Introversion, Self-Depreciation and Deviation scales. On the other hand, it is also noted that majority of them showed negative sign or issues to be addressed in the Denial and Persecutory Ideas scales. This indicates that remEDIATEES have no particular personality issues in need of extra attention, aside from Denial and Persecutory Ideas scales. This generally means that respondents have not fully accepted their current situation and that they may view other people as unpleasant.

Presented in Table 4 is the comparison of respondents' academic performance in accordance to personality scale. Only on the scale of respondents' Interpersonal Problems (IPs) were there significant differences among the mean academic performances of the respondents at 0.05 level of significance. The mean value of 68.57 with a standard deviation of 0.28 can be observed on the negative indicator on IPs scale while the normal/positive indicator on the IPs scale has a mean score of 76.15 and standard deviation of 6.50. This indicates that there are significant differences among respondents' academic performances considering the IPs scale.

On the other hand, presented in Table 5 is the comparison of respondents' conduct performance in accordance to personality scale. Respondents' mean conduct performances indicate significant differences when grouped according to Anxiety (Axy) scale. It is noted that the mean score for the negative indicator in Axy scale is 84.29 with a standard deviation of 8.10 while the mean score for the positive indicator in Axy scale is 91.91 with a standard deviation of 9.56. This indicates that there is a significant difference between the respondents' mean conduct performance according to Axy scale at 0.05 level of significance.

5. Recommendations

Based on the findings and conclusions of this study, as output of this study, the following are recommended to be incorporated into the Intervention Program for remEDIATEES under Honor Remediation:

Since it is noted that respondents' academic and conduct grades meet the minimum competence with average or higher score and above average or higher score, respectively, it is therefore recommended to steer group discussion towards making them realize that they may amend with their violations by means of helping other students to cope with their academic and conduct-related needs. Including such in their respective plan of actions to be prepared on a monthly basis.

Since majority of the respondents show positive sign or no issues to be resolved in the Hypochondrias, Depression, Interpersonal Problems, Alienation, Anxiety, Thinking Disorder, Impulse Expression, Social Introversion, Self-Depreciation and Deviation scales. And the presence of issues to be resolved are observed in the Denial and Persecutory Ideas scales; it is suggested that counseling should aim to address remEDIATEES' issues on acceptance of their current situation and that the system nor the people inside the institution have nothing against them. It will also help if they are guided to look at the future in a positive light. Such realizations may be indicated in their respective daily journals and may be included in their reflection papers to be submitted every end of the month.

When grouped according to Interpersonal Problems (IPs) scale, the significant difference became apparent between the mean academic performances of the respondents. Such may also be considered as an important input for the students to realize during counseling sessions. It is very essential for them to understand that their academic performance may be affected by how they view life's inconveniences, frustrations, and disappointments.

As respondents' conduct performance mean shows a significant difference when grouped according to Anxiety (Axy) scale, it is also recommended to tackle anxiety during counseling session as this may affect their conduct performance or vice versa. Having good academic grades is one of the requirements for them to pass the Honor Remediation program. Thus it is very vital that the underlying reasons for their anxiety feelings are identified and addressed.

Considering the above-mentioned recommendations, the process of counseling, preparation of action plans and reflection paper, and maintaining of a daily journal may be guided by questions who, why and how. The question “who” aims to answer: “Who am I? What is my moral code?”. The question “why” aims to answer: “Why did I commit such mistake? What motivated me to do so?” and the “how” question aims to answer: “How can I further develop my character of integrity?”

Lastly, the proposed GCO Intervention Program for Honor Remediation is as follows:

Requirements set by the Honor Remediation Program for GCO to monitor are the following:

1. Preparation, monitoring and submission of action plan.
2. Preparation and submission of reflection paper.
3. Monitoring of daily journal.

A. Specific requirements for the Remediatees to submit for GCO monitoring:

1. Action Plan – should be complied every start of the month starting from the first month of the program.
 - must include activities that will comply to their required CS points.
 - must include activities that will amend to their mistakes: academic tutorial to other midshipmen.
 - accomplishment reports should also be submitted.
2. Reflection Papers – should be submitted every end of the month.
 - must indicate all realizations and learning they encountered throughout the month, being under the remediation program.
 - must answer the following questions:
 - “Who am I? What is my moral code?”.
 - “Why I committed such mistake?”
 - “How can I further develop my character of integrity?”
3. Daily Journal – to be monitored at least twice a month.
 - must indicate their activities and accomplishment during the day.
 - must indicate all their realization and learning during the day.

B. Individual Counseling:

1. Discussion of BPI result
2. Cognitive/Behavioral Approach of counseling to:
 - help them accept their current situation and understand that the system is not against them.
 - help them see the future in a positive light.
 - make them realize how their academic performance may be affected by how they view life’s inconveniencies, frustrations and disappointments.
 - help them address their feelings of anxiety and make them realize how this may affect their conduct performance.

C. Group Discussion – which aims for the group to share with each other topics such as:

1. Realizations and learning from being under Honor Remediation Program
2. Ways and activities in order to amend to their mistakes
3. Possible sources of CS (Compensatory Service) points

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