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TRACER STUDY OF BACHELOR OF SCIENCE IN MARINE TRANSPORTATION MAJOR IN NAUTICAL STUDIES GRADUATES OF THE NAVAL STATE UNIVERSITY

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ABSTRACT

This study sought to find out the profile of graduates of the BSMT-Nautical Studies of the Naval State University, Naval, Biliran. Results revealed that the age of the respondents ranged from 21 to 39 years old with an average age of 27.37. Most of them graduated during the school years 2003-2004 and 2004-2005. Nearly two percent and more than 31% passed the Chief Mate and Officer In Charge of Navigational Watch (OIC-NW) board examinations, respectively. The most number of graduates were employed but held a contractual position where most of them being assigned as quartermaster. On the average, it took 6.62 months for the respondents to find jobs. Their work experience was mostly of an ordinary seaman. Some of the graduates pursued further studies but mostly took short-term courses. Most of them were promoted to quartermaster and a great number worked along field of specialization. Based on the evaluation of the graduates themselves and their supervisors, the skills of the former were found to be "very much relevant" to the occupational skills needed in the labor market. As to the association between the skills and job performance of the graduates, (Third Mate) a moderately small positive correlation existed which meant that their skills did not influence or affect the level of their job performance.

KEYWORDS: Bachelor of Science in Marine Transportation Graduates; Nautical Studies; Tracer Study.

INTRODUCTION

The Bachelor of Science in Marine Transportation major in Nautical Studies (BSMT-NS) of the Institute was offered pursuant to Board Meeting number 113 on March 17, 1995 with Resolution number 12 as the granting authority of the NIT- College of Maritime Education. Since then, the program has turned out a considerable number of graduates. However, in so far as the university is concerned there seems to be no study yet being conducted on employment or job placement of graduates, response of the maritime curricular degree program to domestic and international needs and the relevance of the curriculum to the needs of the industry.

The Standards of Training, Certification and Watchkeeping Convention of International Maritime Organization as amended in 1995, requires each maritime institution to establish quality standards for education, training and assessment program to be applied both in managerial and operational levels of activity taking into account how it is managed, organized, undertaken, and evaluated in order that the identified goals and objectives are achieved. In adherence to the STCW, the inclusion of the Philippines in the list of complying countries assures the international maritime community that the Filipino seafarers are competent and are products of a training and certification system that is consistent and compliant with the present international regulations.

The Philippines now belongs to a selected group that made it to the White List of countries which have given full and complete effect to the provisions of the Standards for Training, Certification and Watch keeping (STCW) Convention, as required for member countries of the International Maritime Organization (CHED, 2001). The so-called "White List" of countries deemed to be giving "full and complete effect" to the revised STCW Convention (STCW 95) which has been published by IMO, on the basis of the report made by the Secretary-General to the Maritime Safety

Committee, revealed that 71 countries and one associate member of IMO had met the criteria for inclusion on the list (IMO, 2001).

Since 1987, the Philippines has been the leading provider of seafarers in the international market, making it the manning capital of the world. Today, more than 20 percent of the total 1.23 million seafarers worldwide are Filipinos (Amante, 2004). The deployment of seafarers has been in an up trend for the past 15 years. This attests to the Filipino seafarers' world–class stature, which has earned them a place in ocean-going tankers, passenger vessels, reefer vessels, bulk and chemical carriers of about 116 flags of registry. Foremost of these are Panama, Liberia, Cyprus, Bahamas, Jamaica, Greece, Malta, Singapore, Norway and the Republic of Germany.

In the production of Filipino seafarers, maritime institutions play a vital role of facing the task of upgrading their training programs responsive to the rapid technological changes in this era of automation with complex sophisticated equipment on board ship in order to maintain the competitiveness of the Filipino seamen in the world market.

The Naval State University is one among those maritime institutions in the Northwestern part of Leyte whose educational program primarily aims to provide quality education supportive of the maritime industry and allied technological occupation such as refrigeration and air conditioning, welding, among others. However, in so far as the Institute is concerned there seems to be no study yet being conducted on employment or job placement of graduates, response of the maritime curricular degree program to domestic and international needs and the relevance of the curriculum to the needs of the industry. On the basis, therefore, of the foregoing facts, the researcher being one of those involved in the maritime curricular degree program of Naval State University, was motivated to conduct this study.

Framework of the Study

The conceptual model of this study is shown in figure 1. This study is pursued on the premise that the graduates of BSMT-NS curriculum of NIT have to be appraised relative to the skills they acquired from their course. How they fare in the labor market after graduation holds an important aspects in coming up with a more significant and relevant curricular program offerings in school. The diagram explains that the personal circumstance of the graduate-respondents such as age, sex, school year graduated from the course and board examination passed and their job profile in terms of employment status, job assignment, job performance, waiting period, job experiences, career opportunities and the skills acquired have something to do with the improvement of BSMT-NS curriculum whose graduates are adequately imbued with knowledge and equipped with skills needed in the labor market. These "capacities" coupled with linkage of the school with the labor market will make the graduates competitively employable both domestically and globally.

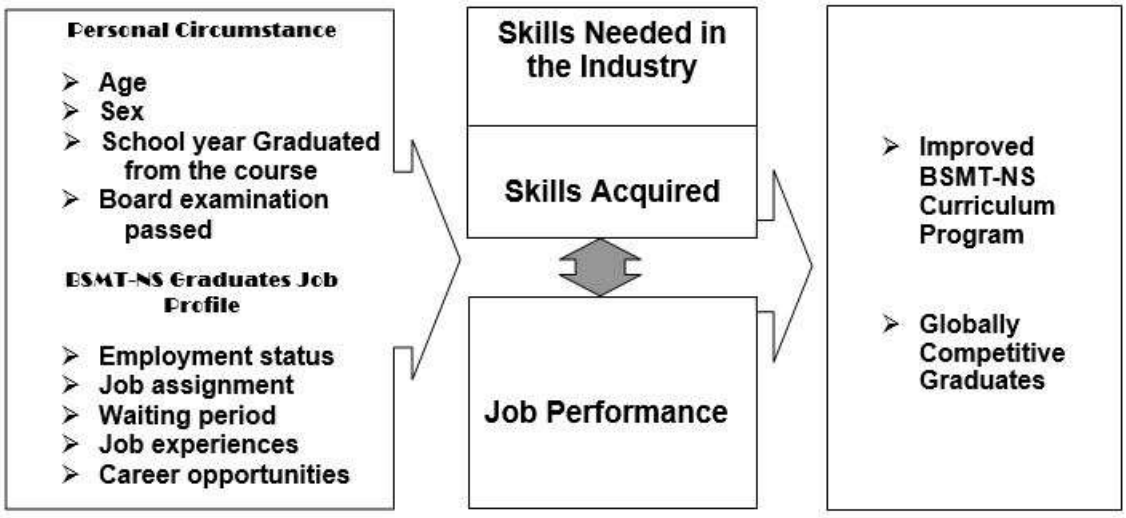

Figure 1.SCHEMATIC DIAGRAM SHOWING HOW TO IMPROVE BSMT-NS CURRICULAR PROGRAM AND EMPLOYABILITY OF GRADUATES

Statement of the Problem

The main purpose of this study was to make a follow-up on the job placement of the graduates of the Bachelor of Science in Marine Transportation major in Nautical Studies (BSMT-NS) of the Naval Institute of Technology and their job performance in relation to skills acquired in school and the occupational skills needed in the maritime industry with the end view of coming up with implications for further improvement of BSMT-NS curriculum. More specifically, the research process sought answers to the following questions:

1. What is the personal circumstance of the BSMT-NS graduates in terms of: age, sex, school year graduated from the course; and Board examination passed?
2. What is the profile of graduates of the Bachelor of Science in Marine Transportation major in Nautical Studies (BSMT-NS) of the Naval Institute of Technology from school years 1999-2005 in terms of: employment status; job assignment; waiting period; job experiences; and career opportunities?
3. What is the degree of relevance on the skills generated by the Institute's curriculum offering to the occupational skills needed in the labor market as perceived by the graduates and their present immediate supervisors?
4. What is the job performance of the BSMT-NS graduates?
5. Is there a significant relationship between skills acquired by the graduates and their job performance?
6. Based on the findings of the study, what further improvements can be drawn for the BSMT-NS curricular program?

Scope and Delimitation of the Study

The study was conducted at the Naval Institute of Technology, Naval, Biliran Province during the school year 2007–2008. The focus of this study was the graduates of the Bachelor of Science in Marine Transportation major in Nautical Studies (BSMT-NS) of the institute from school years 1999-2000 through 2004-2005. The reason behind the choice was that these groups of graduates were the first six batches of graduates of the said degree program. This study was limited to the graduate-respondents' personal background such as age, sex, school year graduated from their course and board examination passed and their job profile such as employment status, job assignment, waiting period, job experiences, career opportunities, and job performance; and the relevance of their skills acquired in school to the occupational skills needed in the labor market as perceived by themselves and their supervisors. Also of interest was the relationship between the skills of the graduate-respondents and their job performance.

METHODOLOGY

The descriptive survey method was employed in this study. This research method was used to ascertain existing conditions in the locale of the study insofar as the Bachelor of Science in Marine Transportation major in Nautical Studies (BSMT-NS) curriculum of the Naval Institute of Technology was concerned. This study was conducted at the Naval State University, Naval, Biliran. Formerly known as the Naval High School, it was converted into a state college by virtue of Republic Act No. 4309 enacted in August 1972. The only state university in the Province of Biliran, the Institute has been offering various college degree programs and one of those is the Maritime Education program. The subjects of the study were the graduates of the Bachelor of Science in Marine Transportation major in Nautical Studies of NIT from school year 1999-2000 through school year 2004- 2005. The research process also included the immediate present supervisors of the employed graduates of the institute along their fields of specialization. The main instrument used in this study was the questionnaire. Necessary information from the graduates was retrieved by the from the Registrar's Office of the Naval State University to examine the available records on file in order to get the names and the respective initial addresses of the graduate-respondents. For those respondents who could easily be contacted, the researcher personally administered the questionnaire and conducted an informal interview to enrich the information needed. And for those who could not easily be reached due to distance, the questionnaire was sent to them by mail with self-addressed envelope to facilitate the return of the answered questionnaire or the questionnaire was sent to them by an electronic mail (e-mail) to those respondents with e-mail address. Follow-up questionnaires were sent to the respondents who failed to answer the initial administration. However, in the event that the respondents failed to answer for the second time, his name was automatically deleted from the list of graduate-respondents. At the time of data collection, there were actually 75 graduates officially registered in the office of the Registrar of Naval State University. The study aimed for total enumeration. However, in view of the refusal of some respondents to send back the questionnaires despite repeated follow-up, only 57 questionnaires were retrieved which constituted 45 being

employed, 11 being self-employed and 1 unemployed. The descriptive statistics such as percentage, mean and rank were used to describe the profile of the graduate-respondents.

PRESENTATION OF FINDINGS, ANALYSIS AND INTERPRETATION OF DATA

The discussion and interpretation of results which include the personal circumstance of the BSMT-NS graduate-respondents; their profile in terms of employment status, job assignment, waiting period, job experiences, and career opportunities; the relevance of skills generated by the university to occupational skills needed in the labor market; the job performance of graduates and; the suggestions and/or recommendations to improve the BSMT-NS curriculum of the Naval Institute of Technology are presented based on the objectives of the study.

Personal Circumstance of BSMT-NS Graduate-Respondents

The age of the graduate-respondents ranged from 21 to 39 years old with an average age of 27.37 (Table 1). Most of them were at the age range of 24 to 26 years old (40.35%) and 27 to 29 years old (36.84%). The same number of respondents (3.51%) were at the age range of 21 to 23 and 33 to 35 years old. Only very few (1.75%) were at the age range of 36 to 39 years old.

Table 1. Age of the BSMT-NS Graduate-Respondents

Age Range	Number	Percent
21-23	2	3.51
24-26	23	40.35
27-29	21	36.84
30-32	8	14.04
33-35	2	3.51
36-39	1	1.75
Total	**57**	**100.00**
Mean	**27.37**	

The results further show that the graduate-respondents were mostly in their mid and late twenties. This finding indicates that the respondents have just graduated from the Institute quite recently.

Sex. The sex of the graduate-respondents is shown in Table 2. A little more than 89% were males while the rest (10.5%) were females.

Table 2. Sex of the BSMT-NS Graduate-Respondents

Sex	Number	Percent
Male	51	89.50
Female	6	10.50
Total	**57**	**100.00**

The results imply that although seamanship is, by tradition, popularly recognized as an exclusive men's trade, now attracts women not only because of their strong interest and inclination to sea navigation but, perhaps, because of the recent hiring and recruitment policies which eliminate gender inequality, provided, however, that the applicant meets the required qualification standards.

School Year Graduated. The most number of respondents graduated from their BSMT-NS course during the school year 2003-2004 (26.3%) and 2004-2005 (29.8%). Only very few (1.8%) graduated during the school year 1999-2000 (Table 3).

Table 3. School Year the BSMT-NS Graduate-Respondents Graduated

School Year Graduated	Number	Percent
1999-2000	1	1.80
2000-2001	12	21.10
2001-2002	4	7.00
2002-2003	8	14.00
2003-2004	15	26.30
2004-2005	17	29.80
Total	**57**	**100.00**

This finding suggests that in time the BSMT-NS course has already become known to the service area of the Institute and has attracted more students to the degree program; hence, produced more graduates during the later school years.

Board Examination Passed. Of the 57 graduate-respondents, nearly 2% passed the Chief Mate board examination, while 31.6% passed the Officer-in-Charge of Navigational Watch (OIC-NW) examination. A great majority (66.7%) never had any eligibility at all. Perhaps the latter never took, or may have taken board examination but failed (Table 4).

Table 4. Board Examination the BSMT-NS Graduate-Respondents Passed

Title of Board Examination	Number	Percent
None	38	66.70
OIC-NW	18	31.60
Chief Mate	1	1.80
Total	**57**	**100.00**

Status of Employment. As presented in Table 5, of the 57 respondents who finished the BSMT-NS degree, nearly 79% were employed and only very few (1.8%) were unemployed. The rest (19.3%) were self-employed.

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Table 5. Status of Employment of BSMT-NS Graduate-Respondents

Employment Status	Number	Percent
Employed	45	78.90
Unemployed	1	1.80
Self-employed	11	19.30
Total	**57**	**100.00**

This implies that the BSMT-NS graduates of the Naval Institute of Technology are really employable not only domestically but also globally. This finding concurs to what Ramirez (2007) revealed that foreign ship owners prefer Filipino seafarers because of their proven seamanship mettle and productivity.

Supporting this finding, Omega (1994) and Lim (1995), in their separate studies, stressed that graduates of Machine Shop Technology and BSMT-NS, respectively, of the Palompon Institute of Technology, were all employed.

Nature of Employment. As shown in Table 6, of the employed BSMT-NS graduate-respondents, more than 95% held a contractual position, while the same number of respondents held both permanent-regular and temporary positions (2.2%)

Table 6. Nature of Employment of BSMT-NS Graduate-Respondents

Nature of Employment	Number*	Percent
Permanent-regular	1	2.20
Temporary	1	2.20
Contractual	43	95.60
Total	**45**	**100.00**

*Employed only

This implies that to acquire tenure in the service one must adequately possess the necessary requisites such as educational preparation, training, length of service, appropriate eligibility, loyalty and performance, among others.

Job Assignment. Table 7, show the job assignment of the BSMT-NS graduate-respondents composed of the employed and the self-employed. Those assigned as Chief Mate and Second Mate each comprised 1.8%; Ordinary Seaman; 7.1%; Third Mate and proprietor of large/ small business, 14.3%. Other job assignments not specifically mentioned comprised more than 19%. Moreover, a little over 41% were assigned as Quartermasters.

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Table 7. Job Assignment of BSMT-NS Graduate-Respondents

Job Assignment	Number*	Percent
Ordinary Seaman	4	7.10
Quartermaster	23	41.10
Third Mate	8	14.30
Second Mate	1	1.80
Chief Mate	1	1.80
Proprietor of large/small business	8	14.30
Others	11	19.60
Total	**56**	**100.00**

*Employed and self-employed

As revealed, the graduate-respondents were predominantly assigned as quartermasters, because they were still new on the job and they did not have the appropriate eligibility. One respondent did not indicate job assignment since he is still unemployed.

Waiting Period. The length of time it took the respondents to find the job ranged from one to 36 months with an average of 6.62 months (Table 8). More than 35% of them reported to have waited for two months, while others mentioned that their waiting period was three months (22.2%) and 12 months (20%). The same number of respondents (2.2%) reported as having waited for one month, five months, eight months and eighteen months.

Table 8. Waiting Period of BSMT-NS Graduate-Respondents

Number of months	Number*	Percent
1	1	2.20
2	16	35.60
3	10	22.20
5	1	2.20
6	4	8.90
8	1	2.20
12	9	20.00
18	1	2.20
36	2	4.40
Total	**45**	**100.00**
Mean	**6 . 62**	

*Employed only

The average waiting period of 6.62 months after graduation is quite short which clearly indicates the demand for Filipino manpower in the maritime industry. Surprisingly, it is not the manpower (applicant) who "waits" for the job (employer) but it is the latter. This finding has a direct bearing on the views of Ramirez (2007) who reported that ship owners have obviously waited long enough for the government maritime agencies to deliver the goods (Filipino ship officers) to them.

Reasons for the Delay (Waiting Period) in Securing Job. As shown in Table 9, the three most important reasons of the BSMT-NS graduate-respondents for the delay in securing job were: (1) no job opportunities/vacancies, (2) the job is far from home and (3) the lack of appropriate eligibility.

Table 9. Reasons of the BSMT-NS Graduate-Respondents for the Delay (waiting period) in Securing Job.

Reasons	Number*	Rank
No response	33	1
No job opportunities/vacancies	18	2
The job is far from home	9	3
Lacks the appropriate eligibility	3	4
Needs for better advancement opportunity	2	6
Health Problem	2	6
Financial Problem	2	6

*Multiple responses

This implies that right after graduation, the respondents had to wait for sometime not necessarily because of the absence of job opportunities but, perhaps, because of some requirements and other related documents that have to be complied with. However, the waiting did not last long because they were absorbed in the shipping and/ or maritime agencies.
This finding agrees with the opinion of Ramirez (2007) who argued that some forces in the industry and also in government are getting in the way of this knocking opportunities by coming up with ridiculous training requirements where motives are inclined more towards profits than learning.
The table also shows that there were number of respondents who never answered the question for reasons they alone knew.

Job Experiences. Among the jobs experienced by the graduate-respondents, being ordinary seaman ranked first, followed by those who were Quartermaster, Third Mate, Second Mate and Chief Mate (Table 10).

Table 10. Job Experiences of BSMT-NS Graduate-Respondents

Job Experiences	Number*	Rank
Ordinary Seaman	36	1
Quartermaster	32	2
Third Mate	10	3
Second Mate	2	6
Chief Mate	1	9.5
Clerical and Related Worker	1	9.5
Proprietor of large/small business	6	4

Security Guard	2	6
Salesman	2	6
Barangay Official	1	9.5
Overseas Filipino Worker	1	9.5

*Multiple responses

Some experienced being proprietor of business and OFWs, among others. The finding emphasizes that the employed respondents had to be promoted only by reasons of merits.

Career Opportunities. Among the graduate-respondents, a little over five percent reported to have pursued further studies, while almost 95% reported otherwise. Of those who pursued, a great majority (66.67%) took short-term courses and the rest (33.33%) took BS in Computer Science (Table 11).

Table 11. Career Opportunities of BSMT-NS Graduate-Respondents

Pursuing further studies	Number	Percent
Yes	3	5.30
No	54	94.70
Total	**57**	**100.00**
Course Pursued	Number	Percent
BS Computer Science	1	33.33
Short-term Courses	2	66.67
Total	**3**	**100.00**

This suggests that the respondents are no longer interested to gain additional education or training probably because they are very much busy with their present job or business and livelihood activities.

Promotion Enjoyed. Of the employed graduate-respondents, a predominant number (71.1%) were promoted. As to the type of promotion the respondents enjoyed, nearly two thirds (65.8%) were promoted to Quartermaster, Third Mate (25%) and Boat Captain, (3.1%) among others (Table 12).

Table 12. Promotion Enjoyed by BSMT-NS Graduate-Respondents

Promoted	Number	Percent
Yes	32	71.10
No	13	28.90
Total	**45**	**100.00**

Type of Promotion	Number	Percent
Quartermaster	21	65.80
Third Mate	8	25.00
Second Mate	1	3.10

Chief Mate	1	3.10
Boat Captain	1	3.10
Total	**32**	**100.00**

Based from the interview of the respondents, indicate that promotion is granted only on the basis of merits and job performance.

Reasons For Not Being Promoted. The two most important reasons of the graduate-respondents for not being promoted were (Table 13):

1. Still new on the job. The length of work experience is a potent factor in the acquisition of skills relative to the job. The longer the person is on the job the more experienced he becomes. More importantly, as one stays longer on the job, true disposition and characteristics are shown. These virtues are vital ingredients for a harmonious working relationship among peers and superior.
2. Lacks the appropriate eligibility. This is a legal document which entitles the holder to be qualified and suitable to the job, granting him the advantages looked for by employers. Unless the employee is eligible, promotion in the service seems to be a remote possibility.

Table 13. Reasons of the BSMT-NS Graduate-Respondents for not being Promoted

Reasons	Number*	Rank
Still new on the job	6	1.5
Lacks the appropriate eligibility	6	1.5
Lacks the necessary in- service training	3	3
Others	2	4

*Multiple responses

Considering the foregoing reasons, it can be implied that promotion is only effected by strictly adhering to usual standard operating procedures.

Respondents Employed Along Field of Specialization. Of those who were employed, 84.4% said their work was in line with their field of concentration. Only 15.6% reported otherwise (Table14).

Table 14. BSMT-NS Graduate-Respondents, Employed Along Field of Specialization

Response	Number	Percent
Yes	38	84.40
No	7	15.60
Total	**45**	**100.00**

This means that the respondents encountered no problem or difficulty in performing their duties because the job assigned to them matched their education and training.

This result is confirmed by Lim (1995) who reported that almost 76% of the BSMT-NS graduates of Palompon Institute of Technology were employed in line with their field of specialization.

Reasons of the Respondents for Being Employed Outside Specialization.

While some respondents were employed, yet they complained that the training they acquired in school has never been used because of the two most important reasons (Table 15):

1. No job vacancy related to the field training
2. Wants to be always near with loved ones

Table 15. Reasons of BSMT-NS Graduate-Respondents for being Underemployed or Employed Outside Field of Specialization

Reasons	Number*	Rank
Job vacancy related to the field training	9	1
Wants to be always near from love ones	7	2
Influential relatives to present employment	2	4
Does not possess the required physical qualifications	1	5.5
Political backing	1	5.5
Others	5	3

*Multiple responses

These results indicate that at the time the respondents applied for the job, job vacancies were not in congruence with their training, or when the job matches with their skills, they refused to get employed because they never wanted to be away from their families (love ones).

Degree of Relevance of Skills Generated by the Institute to the Occupational Skills Needed in the Labor Market

The skills generated by the Institute to the occupational skills needed in the labor market as perceived by the graduates and their immediate supervisors are grouped according to skills acquired by those holding the position of Third Mate, Second Mate and Chief Mate. Their degree of relevance was among those considered of interest in this study.

Relevance of Skills Acquired by the Third Mate, Second Mate and Chief Mate. Tables 16,17 and 18 show the relevance of skills acquired by each group of maritime workers to the occupational skills needed in the industry. It has been proven time and again that success in employment depends, to a certain extent, on the knowledge and skills a person possesses relevant to the job he does. Hence, relevance may contribute a lot to the performance of workers on the job.

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Table 16. Relevance of Skills Acquired by the Third Mate to the Occupational Skills Needed in the Labor Market

TRAINING SKILLS	Rater or Evaluator			
	Graduates		Supervisor	
	Weighted Mean	Interpretation*	Weighted Mean	Interpretation*
A. **Third Mate***	4.4	VR	4	VR
Ability to interpret the meaning of the different ringings of station bell, bushers and whistles.	4	VR	4	VR
	4.8	VR	4.9	VR
	8	MR		MR
Ability to operate the lifeboat portable radio apparatus	4	VR	4	VR
	4.7	VR	4.8	VR
	5	MR	8	MR
Knowledge on inflatable life raft.	4	VR	5	VR
	4.6	VR	5.0	VR
	3	MR		MR
Knowledge on the different classes of fire extinguishing method and agents.	4	VR	4	VR
	4	VR	4	VR
	4.7	VR	4.9	VR
	5	MR		MR
Knowledge on the different kinds of heat transmission and stages of fire temperature.	4	VR	4	VR
	4	VR	4	VR
	4.8	VR	4.8	VR
	8	MR	8	MR
Skill in computing the cubic capacity of life boat.	4	VR	4	VR
	4.7	VR	4.8	VR
	5	MR	8	MR
Skill in determining the minimum number of davits requirements per specific class of vessel as well as their location and launching arrangement.	4	VR	5	VR
	4.7	VR	5.0	VR
	5	MR		MR
Skill in diving and swimming techniques.	4	VR	4	VR
	4.3	VR	4.7	VR
	8	MR	6	MR
Skill in identifying lifeboats equipment.	4	VR	4	VR
	4.7	VR	4.8	VR
	5	MR		MR

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	4	V	5	V
Skill in preparing the stowage, handling and care of life boats.	4.	V	5.	V
	7	M	0	M
	5	R		R
	4	V	5	V
Skill in the operation of SAR facilities.	4.	V	5.	V
	7	M	0	M
	5	R		R
	4	V	4	V
Overall Mean Rating	4.	V	4.	V
	7	M	9	M
	3	R		R

** Interpretation
N=8

Table 17. Relevance of Skills Acquired by the Second Mate to the Occupational Skills Needed in the Labor Market

TRAINING SKILLS	Rater or Evaluator			
	Graduates		Supervisor	
	W	II	W	II
	W	nt	W	nt
	x	.*	x	.*
		*		*
B. **Second Mate***	5	V	5	V
	5	V	5	V
Ability to familiarize and perform the different kinds of charts	5	V	5	V
and chart works.	5.	V	5.	V
	0	M	0	M
		R		R
Ability to identify and interpret the characteristics of buoys,	5	V	5	V
lighthouses and other navigational aids.	5.	V	5.	V
	0	M	0	M
		R		R
			4	V
Ability to identify the different astronomical coordinates.	5.	V	4.	V
	0	M	9	M
		R		R
Ability to measure bearing, azimuth and azimuth angles relative	5	V	4	V
to bearings.	5.	V	4.	V
	0	M	8	M
		R	8	R
Knowledge on sailings, dead reckoning and great circle sailing.	5	V	5	V
	5.	V	5.	V
	0	M	0	M
		R		R

Knowledge on the relative position, sizes and uses of celestial navigation.	5 5.0	VVMR	4 4.88	VVMR
Skill in finding compass error at sea.	5 5.0	VVMR	4 4.88	VVMR
Skill in finding time in different places and the ability to convert from one time to another.	5 5.0	VVMR	4 4.8	VVMR
Skill in finding longitude and azimuth angle by haversine formula.	5 5.0	VVMR	4 4.88	VVMR
Skill in finding the latitude at noon by meridian altitude.	5 5.0	VVMR	5 5.0	VVMR
Skill in measuring the latitude and longitude according to rules.	5 5.0	VVMR	5 5.0	VVMR
Skill in piloting	5 5.0	VVMR	5 5.0	VVMR
Skill in the utilization of nautical almanac (N.A.).	5 5.0	VVMR	4 4.76	VVMR
Skill in using chronometer and sextant.	5 5.0	VVMR	4 4.76	VVMR
Skill in using the different electronic navigation instruments/equipment on board vessels: such as radar, ARPA, depth sounder, automatic pilots, GPS, VDR, ECDIS.	5 5.0	VVMR	5 5.0	VVMR
Skill in using the Inmarsat/GMDSS Communication equipments.	5 5.0	VVMR	5 5.0	VVMR
Skill in using the tabular methods in finding line of position for a fix.	5 5.0	VVMR	4 4.88	VVMR
Overall Mean Rating	5 5.0	VVMR	4 4.9	VVMR

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** Interpretation
***** N=1

Table 18. Relevance of Skills Acquired by the Chief Mate to the Occupational Skills Needed in the Labor Market

TRAINING SKILLS	Rater or Evaluator			
	Graduate		Supervisor	
	WWx	Int.**	WWx	Int.**
	4	V	4	V
C. **Chief Mate***				
	5	V	4	V
Ability to classify mooring lines and apply with anchor chain.	5.0	VMR	4.4	VMR
	5	V	4	V
Ability to describe the principles of stowage of cargo.	5.0	VMR	4.88	VMR
		V	4	V
Ability to specify the duties and obligation of the officers and crew of vessels.	5.0	VMR	4.88	VMR
	4	V	4	V
Knowledge on hydrostatic.	4.0	VR	4.76	VMR
	4	V	4	V
Knowledge on International Load Line.	4.0	VR	4.8	VMR
	4	V	4	V
Knowledge on ship measurements.	5.0	VR	4.7	VMR

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	4	V	4	V
Knowledge on the general principles of ship control.	4	V	4	V
	.	R	.	M
	0		6	R
	4	V	4	V
Skill in booking and Mooring-Handling alongside.	5	V	4	V
	.	M	.	M
	0	R	6	R
	4	V	4	V
Skill in the classification of cargo with respect to ventilation.	4	V	4	V
	.	R	.	M
	0		8	R
			8	
	4		4	V
Skill in classifying the general types of cargo such as bulk,	5	V	4	V
liquid or dry and other types.	5	V	4	V
	.	R	.	M
	0		7	R
			6	
	4	V	4	
Skill in describing the cases of dunnage and its classifications.	5	V	4	V
	5	V	4	V
	.	M	.	M
	0	R	6	R
	4	V	4	V
Skill in the application of the general rules for stowage such as	4	V		V
bagged goods, case goods, barrels, grain another cargoes.	4	V	4	V
	4	V	4	V
	.	R	.	M
	0		7	R
	4	V	4	V
Skill in towing and salvaging.	4	V	4	V
	.	R	.	M
	0		7	R
	4	V	4	V
Overall Mean Rating	4	V	4	V
	.	M	.	M
	5	R	7	R

** Interpretation
N=1

As revealed, all skills acquired by the three ranks of marine deck officers as rated by graduates themselves were found to be “very much relevant” to the occupational skills needed by the employer. Skills acquired by the Third Mate, Second Mate and Chief Mate have a respective overall mean rating of 4.7, 5.0, and 4.5 which were each interpreted as “very much relevant” to their individual job assignment.

Likewise, as perceived by the Supervisors, a similar result was obtained where the skills acquired by Third Mate, Second Mate and Chief Mate have a respective overall mean rating of 4.9, 4.9 and 4.7, respectively which were each interpreted as “very much relevant”.

Meanwhile, some of the skills of the Chief Mate (Table 18) as rated by himself and his Supervisor appeared to be respectively "very relevant" and "very much relevant". It must be emphasized here that the result obtained is purely perceptional on the part of both respondents and, therefore, should be given due credence. The result means that the employee (Chief Mate) is so honest in rating himself and the Supervisor is strongly convinced of his abilities toward the job.

These findings imply that the school, the Naval Institute of Technology, has offered maritime curricular degree program consistent and in accord with the needs of the industry. Hence, the graduates are adequately "armed" or equipped with the necessary weapons (knowledge and skills) looked for by the labor market.

This confirms the results of Pepito (1984) that majority of the employed graduates, were engaged in job that were related to their school training. Likewise, Arceño (1989) corroborates this view that the graduates found the skills they have acquired through GRCO training scheme to be very relevant in their job performance either in the industry or self-employment.

Job Performance of BSMT-NS Graduate-Respondents

Perceived by themselves, the performance of the respondents in their job is presented in Table 19. Irrespective of the position they held, more than 93% were rated a "very satisfactory" performance, while the rest (6.7%) received a "satisfactory" level of performance.

Table 19. Job Performance of BSMT-NS Graduate-Respondents

Performance Rating	Number*	Percent
Satisfactory	3	6.70
Very Satisfactory	42	93.30
Total	**45**	**100.00**

*Employed only

As revealed, a very predominant number had a very satisfactory level of job performance. This suggests that practically all of them show their dedication and devotion to duty and love of work. These values may have been probably triggered by job motivation and satisfaction.

Relationship between Skills Acquired and Job Performance

As shown in Table 20, the correlational analysis revealed that the r_s value for skills acquired by the Third mate was 0.088 which was said to have a very small positive correlation and, therefore, interpreted as not significant. This is because the p-value (0.836) is very much greater than 0.05; or the computed r_s value (0.088) is very much lower than the tabular value (0.643) at 5% level of Significance. On the other hand, relationship between skills acquired and job performance of the Second Mate and Chief Mate could not be established because of a very insufficient number of respondents.

Table 20. Relationship between Skills Acquired and Job Performance

Variable	n	Correlation Coefficient	p-value	Interpretation
Third Mate Skills	8	0.088	0.836	***Not Significant***

Note:

Not significant : p-value is greater than 0.05
Significant : p-value is greater 0.01 but less than or equal to 0.05
Highly significant : p-value is lesser than or equal to 0.01

On the basis of this finding, the hypothesis advancing the existence of relationship between skills and job performance, is rejected. Plainly stated, the rejection of the alternative hypothesis has proven that, indeed, whatever is the performance of the graduates on their job, is definitely not associated or attributed to the skills they have acquired from school.

This suggests that the skills, although found to be "very much relevant", do not influence the graduates in the performance of their job. What helps them more are, probably, the intangibles-love of work, dedication, honesty, loyalty, and the like.

Be it so that the findings of this study established no significant relationship between skills and job performance, yet relevance of skills taught to students should not be overlooked by maritime institutions like NIT. In fact, as Buazon (2001) partly said:

> *" technical and vocational education shall be directed towards the provision of skills required by labor-intensive based development, .. and skills that will make man power competitive in the international market shall be promoted".*

Suggestions and Recommendations to Improve the BSMT-NS Curriculum of the Naval Institute of Technology.
As presented in Table 21, revision of the course is not the solution to improve the BSMT-NS curriculum of the Institute. Rather, as perceived by the graduates and their supervisors, the same can be improved by adopting the following recommendations arranged according to the order of importance:

1. Provision of adequate supplies and materials
2. Provision of adequate laboratory facilities, tools and equipment
3. Provision of adequate instructional aids and reference materials
4. Attendance to more in-service trainings on modern trends
5. Retraining of teachers teaching major subjects

The last two suggestions/recommendations are corroborated by Oliva (1976) who emphasized that teachers teaching the subjects need upgrading of their previous training so that they can meet the new challenges of the time.

Table 21. Suggestions and Recommendations to Improve the BSMT-NS Curriculum of the Naval Institute of Technology

Reasons	Graduates		Supervisor	
	Number*	Rank	Number*	Rank
Adequate supplies and materials	55	1	10	1
Adequate laboratory facilities, tools and equipment	53	2	9	2.5
Adequate instructional aids and reference materials	44	3	9	2.5
More in-service trainings on Modern Trends	42	4	8	4
Retraining of teachers teaching major subjects	34	5	5	5
Inclusion of entrepreneurship in the curriculum	5	6	1	6.5
Revision of the course	2	7	1	6.5

*Multiple responses

This finding implies that the BSMT-NS curriculum is congruent to the needs of the employment sector. What is probably lacking is the provision of adequate supplies and materials, facilities and important references necessary to carry out the program.

CONCLUSIONS

On the basis of the results obtained in this study, the following conclusions are drawn: A very great number of the respondents were males with an average age of 27.37 years old. Most of them graduated during the School Year 2003-2004 and 2004-2005. Only nearly two percent and more than 31% passed the Chief Mate and OIC-NW board examinations, respectively.The most number of graduates are employed but hold a contractual position where most of them being assigned as Quartermaster. On the average, it takes the graduates 6.62 months to find jobs. Some of the graduates pursued further studies but they mostly take short-term courses. Most of the graduates are promoted to Quartermaster. Those who are promoted reason out that they are still new on the job and they lack the appropriate eligibility. A great number of graduates work along field of specialization. As rated by the graduates themselves and their supervisors, all the skills of the former are “very much relevant” to the occupational skills needed in the labor market.

There exists no significant relationship between the skills of graduates and their job performance.

RECOMMENDATIONS

Since the focus of this study is on the relevance of skills acquired by the graduates, their employability and curriculum improvement, the following recommendations are offered: Seriously adopt or effect the suggestions and/ or recommendations solicited from the graduates and their supervisors. Let the school establish linkage with the employment world. Reiterating what Buazon (2001) said, “to ensure absorption of graduates, more functional and direct working arrangement with specific industries shall be linked”. As revealed, skills-although very much relevant, do not influence the job performance of graduate-respondents. It is, probably, the positive values that do. Therefore, as a matter of policy, emphasize the inclusion of values of honesty, dedication, love of work and public relation in the curriculum, among others, for these will positively affect the attitude of the employee toward his work. A similar work of deeper scope be conducted to establish wider and more conclusive generalizations.

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