CHAPTER 4

RESEARCH ANALYSIS

4.1 Introduction

This chapter begins with the profile of respondents. It then proceeds with descriptive frequency analysis on the respondents' demographic profile to determine the various backgrounds of the respondents. To find the effectiveness of sea training program, descriptive statistics, bivariate correlation technique, standard regression analysis technique and one-sample t test were used.

4.2 Demographic Analysis

Descriptive frequency analyses on the respondents were done to find various background variables of the respondent as shown Table 4.1.

Table 4.1: Demographic Analysis

Demographic Variables	Frequency	Percentage
Gender		
a. Male	105	96.3
b. Female	4	3.7
Race		
a. Malay	103	94.5
b. Chinese	4	3.7
c. Indian	1	0.9
d. Sikh	1	0.9
Age		
a. 18 - 20 years	26	23.5
b. 21 – 23 years	79	72.5
c. 24 - 26 years	3	2.8
d. 27 years above	1	0.9

4.2.1 Gender - Of the 109 respondents, 105 are male and 4 female, attributing to 96.3% and 3.7% of the sample respectively. These percentages possibly reflect the number of female staffs in the RMN. This is due to the policy of maintaining only 5% female in the service (RMN Human Resources Policy). All the respondents are bachelor.

4.2.2 Race - The racial compositions of the respondents are made up of 103 (94.5%) Malay, 4 (3.7%) Chinese, 1 (0.9%) Indian and 1 (0.9%) Sikh. The figure shows that the Malay represents the majority of representative in the RMN, possibly due to the reason the other races are not keen to work in the military.

4.2.3 Age - 96% (105) of the respondents are young adults between 18 and 23 years old. 2.8% (3) of the respondents are of the age group 24 to 26. They are also Diploma holders. Only one respondent (0.9%) is above 27 years.

Table 4.2: Demographic Analysis

Demographic Variables	Frequency	Percentage
Rank		
a. 2nd Year Cadet	46	42.2
b. 3rd Year Cadet	63	57.8
Academic Qualification When Joining Navy		
a. SPM	106	97.2
b. Diploma	3	2.8
Background Prior to Joining The Course		
a. Civilian	103	94.5
b. Royal Military College	1	0.9
c. Armed Forces Reserve	2	1.8
d. PALAPES	3	2.8
e. Others Rank	0	0

4.2.4 Rank – 46 of the respondents (42.2%) are 2nd year trainees and 63 (57.8%) are 3rd year trainees. The difference in the number of trainees between these two groups is a result of the policy of RMN Human Resources to maintain the numbers of officers in the RMN to five thousand.

4.2.5 Academic Qualification When Joining Navy – The minimum requirement to join the BOJC course is SPM. The findings show that educational level of 106 of the respondents (97.2%) is SPM. Only 3 (2.8%) of the respondents are the Diploma holders.   This statistics support the argument that the BOJC course can only attract the participants from SPM holder.

4.2.6 Background Prior to Joining The Course – Only 6 (5.5%) respondents had military background prior to joining the course.   Three of them (2.8%) are from the PALAPES, 2 (1.8%) from the Armed Forces Reserves and one (0.9%) from the Royal Military College. 103 (94.5%) respondents are without military background. In this case, military experience is not the factor for people to work in the RMN.

4.3   The Inter-Correlation between Variable

The analysis results for the relationships between trainees' course satisfaction after sea training program and the independent variables are presented in Table 4.3.

Table 4.3: Correlation between Trainees' Course Satisfaction and Independent Variables (Training Design, Motivation and Instructor Support

Dependent Variable		Independent Variables		
Course Satisfaction		Training Design	Trainees' Motivation	Instructor Support
	Pearson Correlation	.593[**]	.619[**]	.438[**]
	Sig. (2-tailed)	.000	.000	.000

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

The inter-correlations of the study variables are presented in Table 4.3. Hypotheses 1, 2 and 3 predict that trainees' reaction toward training program, instructor support and motivation to learn are significantly related to course satisfaction. In general, the bivariate correlations provided confidence that the measures were functioning properly. Results of inter-correlations of the study variables from Table 4.3 revealed that the correlations between dependant variables (i.e. course satisfaction) and independent variables (i.e. training design, instructor support and motivation to learn) are all positive, suggesting that design of training program, instructor support and motivation to learn was positively associated with course satisfaction ($p < 0:05$). Hence, H1, H2 and H3 are supported. The strongest correlation appears to be trainees' motivation to learn ($r=0.619$)

4.3.1 Examination of Trainees Reaction, Instructor Support and Motivation to Learn

In previous test using correlation, H1, H2 and H3 posited that training design, instructor support and motivation to learn have significant relationship with trainees' course satisfaction. In order to explore the percentage of

independent variables influence trainees course satisfaction, the hypotheses were tested using standard regression analyses. The results are presented in Table 4.4.

Table 4.4: Standard Regression Results of Course Satisfaction Predicting Trainees Independent Variables

Model	R Square	F Value	Standardized Coefficients Beta	T-Value	Sig
Regression	.499	34.904			.000[*]
Training Design			.282	2.910	.004*
Supervisor Support			.146	1.690	.094
Motivation to Learn			.432	5.363	.000*

Note: Predictors: (Constant), Motivation to Learn, Instructor Support, Training Design; Dependent Variable: Course Satisfaction; *=p<0.05

Table 4.4 indicates that all independent variables together explained 50% (R squared=.499) in trainees' course satisfaction, which is highly significant, as indicated by F-value of 34.9. Training design is a significant predictor of trainees' course satisfaction (B=0:282, p<0.05). However, when supervisor support was also included in the regression equation, supervisor support (p=0.094, p>0.5) became an insignificant predictor of trainees' course satisfaction and Beta standardized coefficient was reduced to 0.146. This suggests that supervisor support partially trainees' course satisfaction. When motivation to learn is included, Beta standardized coefficient increases to 0.432. An examination of the t-values indicates that motivation to learn (t=5.363) contributed most to the trainees' course satisfaction followed by training design (t=2.91). Hence, motivation to learn is the best predictor for trainees' course satisfaction.

4.4 Comparing Trainees Responses for Each Variables

In order to check significant differences responses from trainees for each variable, an analysis was conducted by using descriptive frequency analysis. The analysis consisted of significant different mean to see if there are differences between the second year and third year cohorts with respect to the various independent variables in the study

4.4.1 Trainees Reaction toward Training Design

Table 4.5: Mean Score of Trainees' Design of Training Program

Variables	Rank	Mean	S.D	Inter-pretation
I clearly understood the course objectives	2nd Year	3.67	.732	High
	3rd Year	3.81	.618	High
The course met all of its stated objectives	2nd Year	3.57	.981	High
	3rd Year	3.54	.877	High
The course contents are useful for me to perform the job.	2nd Year	**3.93**	.929	High
	3rd Year	**4.08**	.655	High
The way this course was delivered is well organized and an effective way to learn	2nd Year	3.30	1.008	Moderate
	3rd Year	3.19	1.014	Moderate
I had enough time to learn the subjects presented.	2nd Year	**2.96**	1.095	Moderate
	3rd Year	**3.11**	1.033	Moderate
Materials (handout, manual, etc) presented are useful to me	2nd Year	3.52	1.070	High
	3rd Year	3.46	1.060	Moderate
My understanding of the subject improved or increased as a result of the program	2nd Year	3.80	.934	High
	3rd Year	3.84	.653	High
The course program helped me to enhance appreciation and understanding of future job as a whole	2nd Year	3.83	.877	High
	3rd Year	3.87	.772	High
Input sessions, activities, discussions, and videos are appropriately balanced	2nd Year	3.48	1.110	Moderate
	3rd Year	3.21	1.095	Moderate
Length of the program are suitable for this course	2nd Year	3.50	1.225	High
	3rd Year	3.29	1.128	Moderate
The practical activities conducted are effective mean for trainee to perform their job	2nd Year	3.72	1.068	High
	3rd Year	3.68	.997	High
Average Mean	2nd Year	**3.57**	**1.003**	**High**
	3rd Year	**3.55**	**.901**	**High**
Total Mean Average			**3.56**	**High**

Table 4.5 shows the trainees perception of training program based on the survey from 2nd and 3rd year trainees. The highest mean for 2nd year trainees (mean=3.93) and 3rd year trainees (mean=4.08) is 'The course contents are useful for me to perform the job'. This shows that the trainees perceive the course contents are relevant to enable them perform their work onboard ship. The lowest mean for 2nd year trainees (mean=2.96) and 3rd year trainees (mean=3.11) is 'I had enough time to learn the subjects presented'. This result depicts that trainees perceive that the delivery method of the subject should be reviewed since most of them required more time to understand the subject taught. Others weighted mean score ranged from 3.19 to 3.81 implies that the magnitude of the effect sizes was generally favorable and ranged from medium to large.

4.4.2 Supervisor Support

Table 4.6: Mean Score of Supervisor Support

Variables	Rank	Mean	S.D	Inter-pretation
Knowledge of subject	2nd Year	3.70	.813	High
	3rd Year	**4.00**	.568	High
Organization of sessions	2nd Year	3.67	.990	High
	3rd Year	3.73	.787	High
Obvious preparation	2nd Year	**3.50**	1.090	High
	3rd Year	**3.29**	1.054	Moderate
Style and delivery	2nd Year	3.72	.886	High
	3rd Year	3.60	.925	High
Responsiveness to group	2nd Year	**3.89**	.795	High
	3rd Year	3.67	.933	High
Producing a good learning climate	2nd Year	3.52	.960	High
	3rd Year	3.46	.947	Moderate
Average Mean	2nd Year	**3.67**	**.922**	**High**
	3rd Year	**3.63**	**.869**	**High**
Total Mean Average		**3.64**		**High**

Table 4.6 shows the trainees' perception of Training Officer as supervisor support during sea training program. The highest mean for 2nd year trainees (mean=3.89) is 'Supervisor's responsiveness to group' and 3rd year trainees (mean=4.00) is 'Supervisor's knowledge of subject'. This result shows that the 2nd year trainees perceive the Training Officer is quick to response to problems which arise during sea training. However, 3rd year give different opinion regarding the Training Officer whom is well equipped with knowledge that can help trainees to perform onboard ship. The lowest mean for 2nd year trainees (mean=3.50) and 3rd year trainees (mean=3.29) is 'Supervisor's obvious preparation' reflects the trainees perception of environment onboard ships which maybe not conducive for learning with a big number of trainees allocated only one ship. Others mean score ranged from 3.46 to 3.72 which describe trainees as good to the extent their supervisor support and reinforce the use of learning on the job for effective training.

4.4.3 Motivation to Learn

Table 4.7: Mean Score Trainees' Motivation to Learn

Variables	Rank	Mean	S.D	Inter-pretation
I believe I can develop the expertise knowledge and required skills in this course	2nd Year 3rd Year	4.04 4.03	.295 .252	High High
I can apply what I learned in this course on my job	2nd Year 3rd Year	4.17 4.10	.383 .499	High High
Good achievement in this course will increase career advancement	2nd Year 3rd Year	4.17 4.21	.437 .446	High High
This course will enhance self confidence at work	2nd Year 3rd Year	4.09 4.10	.412 .429	High High
I put enough learning effort into this course	2nd Year 3rd Year	4.17 4.10	.486 .346	High High
Understanding the course contents gives me a sense of accomplishment	2nd Year 3rd Year	4.11 4.05	.526 .333	High High
I am proud to enroll in this course and become a Naval Officer	2nd Year 3rd Year	**4.39** **4.44**	.493 .501	High High
Learning the subject related to Navy is more important to me than the grade I received	2nd Year 3rd Year	**4.39** 4.11	.745 .764	High High
The training establishment has provided necessary needs for trainee in term of administration	2nd Year 3rd Year	**2.11** **2.02**	.379 .336	Low Low
The training accommodation (training room, ship accommodations and facilities, etc) are well equipped for trainee used	2nd Year 3rd Year	**2.04** **2.03**	.362 .474	Low Low
Average Mean	2nd Year 3rd Year	3.77 3.72	.452 .438	High High
Total Mean Average		**3.74**		**High**

Table 4.7 shows the trainees motivation to learn based on the survey from 2nd and 3rd year trainees. The highest mean for 2nd year trainees (mean=4.39) and 3rd year trainees (mean=4.44) is 'I am proud to enroll in this course and become a Naval Officer'. This result also shows that the trainees' are committed and highly motivated to become RMN officer. However, the 2nd year trainees also score highest mean (mean=4.39) for 'Learning the subject related to Navy is more important to me than the grade I received'. This shows they are putting their work related to RMN as high priority than others.

However, the trainees' have shown low score for items 'The training establishment has provided necessary needs for trainee in term of administration' and 'The training accommodation (training room, ship accommodations and facilities, etc) are well equipped for trainee used' with mean score ranged between 2.02 and 2.11 for both 2nd and 3rd year trainees. This result implies that trainees assess the support from establishment and training facilities as insufficient, and stakeholders should take steps to correct these deficiencies in order to motivate the trainees to learn. Others mean of trainees' self ratings ranged from 4.04 to 4.19, which indicate that they perceived motivation to learn should facilitate positive transfer of knowledge, skills and attitudes (Baldwin and Ford, 1988).

4.5   Measuring Training Effectiveness

Training effectiveness refers to the extent to which the training objectives are achieved. In general, training effectiveness is evaluated by measuring a number of training and transfer outcomes. Kirkpatrick (1976) model suggested that reactions (refer to the extent to which trainees like and feel about training), learning (refers to the knowledge and skills acquired by trainees), behavior (refers to the transfer of knowledge to the work situation by trainees) and results (refer to the attainment of organizational objectives such as absenteeism, personnel turnover, productivity gains and cost reduction) are four measures that are relevant for the evaluation of training outcomes. In order to measure the training effectiveness for this study, an analysis using frequency descriptive analysis was conducted with respect to the various variables; course satisfaction for trainees' reaction, examination achievement

for learning; and basic job skills performance and personal attributes for behaviour. The 4th level, namely, *result* was not measured due to time constraint of the study.

4.5.1 Course Satisfaction

Table 4.8: Mean Score Trainees' Course Satisfaction

Variables	Rank	Mean	S.D	Inter-pretation
I often make use of skills learned during sea training	2nd	**3.76**	.794	High
	3rd	4.08	.451	High
I take advantage of opportunities to practice my newly acquired skills during sea training	2nd	4.17	.383	High
	3rd	4.11	.479	High
I make fewer mistakes at work during sea training	2nd	3.89	.849	High
	3rd	3.94	.716	High
I can remember well the course content	2nd	4.09	.412	High
	3rd	4.10	.429	High
I do my work faster during sea training	2nd	3.85	.842	High
	3rd	3.95	.705	High
The quality of the work I do has improved	2nd	4.11	.526	High
	3rd	4.06	.304	High
I can perform effectively on many different tasks	2nd	**4.39**	.493	High
	3rd	**4.44**	.501	High
My motivation for working has improved after sea training	2nd	**4.39**	.745	High
	3rd	4.13	.751	High
My self-confidence has increased after sea training	2nd	3.87	.833	High
	3rd	3.97	.718	High
My workmates can learn something from me	2nd	3.78	1.052	High
	3rd	**3.78**	.975	High
Average Mean	2nd	**4.03**	.693	High
	3rd	**4.06**	.603	High
Total Mean Average			4.04	**High**

Table 4.8 shows the trainees perception of course satisfaction in relation to sea training program. The highest mean for 2nd year trainees (mean=4.39) and 3rd year trainees (mean=4.44) is 'I can perform effectively on many different tasks'. This result shows that the trainees positively transferred their knowledge and skill on work onboard. The 2nd year trainees also score high mean (mean=4.39) for 'My motivation for working has improved after sea

training' that shows their level of motivation had increased after sea training program. The lowest mean for 2nd year trainees (mean=3.76) is 'I often make use of skills learned during sea training'. These results show that the trainees' are unable to fully practice onboard ship the knowledge they were taught in the class due to inexperience and they require more time to acquire the skills required. The lowest mean for 3rd year trainees (mean=3.78) is 'My workmates can learn something from me'. This result implies that even though trainees perceive the skills and knowledge they have acquired during sea training are relatively high, additional input of knowledge is required before they can perform future job performance onboard ship.

4.5.2 Examination Achievement

A test which was on the basis of a 100-point grade scale, was used to measure the levels of trainees' post-sea training knowledge. The specific percentage of grades based on tests for the ten subjects were C = 50% to 60%, C+ = 61% to 65%, B = 66% to 70%, B+ = 71% to 75% and A = 76% to 100%. These examinations were either entirely multiple choice or a combination of multiple choice and either short answer essay questions or application problems. The trainees' results are tabulated in Table 4.9 below:

Table 4.9: Examination Results

| Subject	Rank	Grade (Numbers of Trainee)				
		C (%)	C+ (%)	B (%)	B+ (%)	A (%)
Human Resources Management	2nd	9 (19.7)	22 (47.8)	0	3 (6.5)	12 (26.1)
	3rd	16 (25.4)	24 (38.1)	0	6 (9.5)	17 (27)
Seamanship	2nd	14 (30.4)	12 (26.1)	5 (10.9)	8 (17.4)	6 (13)
	3rd	21 (33.3)	14 (22.2)	8 (12.7)	11 (17.4)	9 (14.3)
Navigation	2nd	10 (21.8)	6 (13)	13 (28.3)	12 (26.1)	5 (10.9)
	3rd	20 (31.7)	9 (14.3)	18 (28.6)	13 (20.6)	3 (4.8)
Celestial Navigation	2nd	10 (21.8)	14 (30.4)	5 (10.9)	9 (19.7)	8 (17.4)
	3rd	15 (23.8)	17 (27)	8 (12.7)	12 (19)	11 (17.4)
NBCD	2nd	9 (19.7)	12 (26.1)	1 (2.2)	15 (32.6)	10 (21.8)
	3rd	13 (20.6)	15 (23.4)	0	19 (30.2)	15 (23.8)
Gunnery	2nd	4 (8.7)	9 (19.7)	2 (4.3)	6 (13)	25 (54.3)
	3rd	7 (11.1)	8 (12.7)	6 (9.5)	10 (15.9)	32 (50.8)
Marine Engineering	2nd	12 (26.1)	7 (15.2)	3 (6.5)	11 (23.9)	13 (28.3)
	3rd	14 (22.2)	7 (11.1)	4 (6.3)	15 (23.8)	23 (36.5)
Weapon Electrical	2nd	12 (26.1)	14 (30.4)	8 (17.4)	3 (6.5)	9 (19.7)
	3rd	15 (23.4)	16 (25.4)	12 (19)	6 (9.5)	14 (22.2)
Rules of The Road	2nd	7 (15.2)	14 (30.4)	15 (32.6)	5 (10.9)	5 (10.9)
	3rd	7 (11.1)	23 (36.5)	16 (25.4)	9 (14.3)	8 (12.7)
Communication	2nd	12 (26.1)	9 (26.1)	6 (13)	8 (17.4)	11 (23.9)
	3rd	15 (23.4)	10 (15.9)	9 (14.3)	14 (22.2)	15 (23.4)
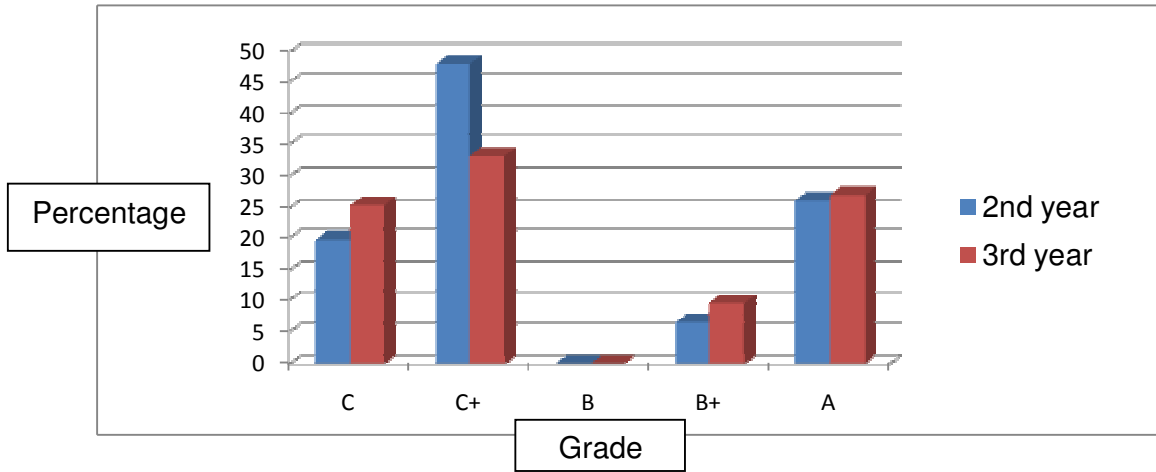
Figure 4.1: HRM Results

Figure 4.1 shows the highest number of trainees scored C plus, namely 24 (38.1%) from the 3rd year cohort and 22 (47.8%) from the 2nd year cohort. However, the number trainees who achieved grade A are almost equal for both classes. From the analysis, the performance of trainees for both classes in HRM examination showed that majority of them achieved moderate result, mainly in the grade C and C plus.
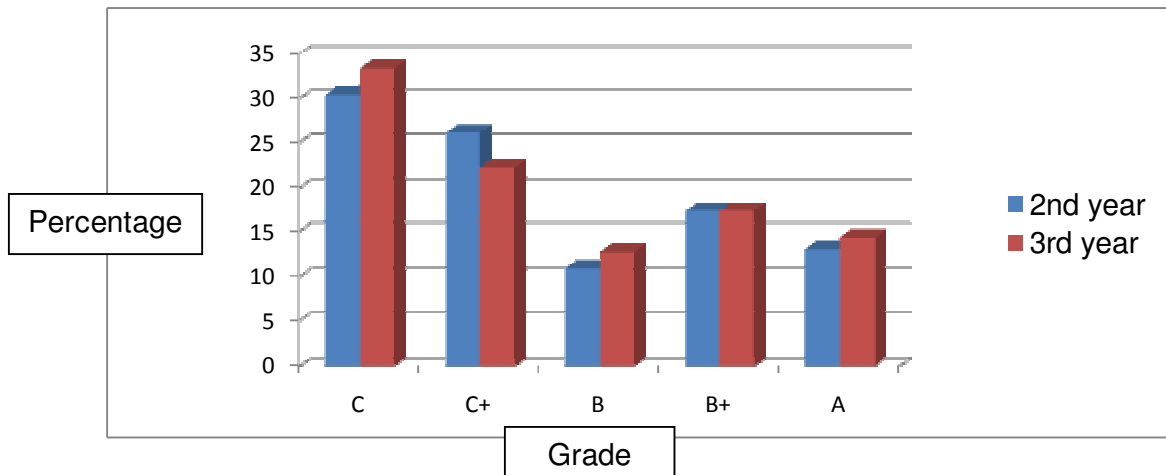

Figure 4.2: Seamanship Results

Figure 4.2 shows the pattern of achievement in the Seamanship examination that many trainees achieved Grade C and C plus with 55.5% (35) for 3rd year

trainee and 56.5% (26) for 2nd year trainee. Trainees' achievement in Seamanship examination is at the moderate level. This result indicates that the majority of trainees' still lack knowledge in this subject, for only small number achieved grade A.
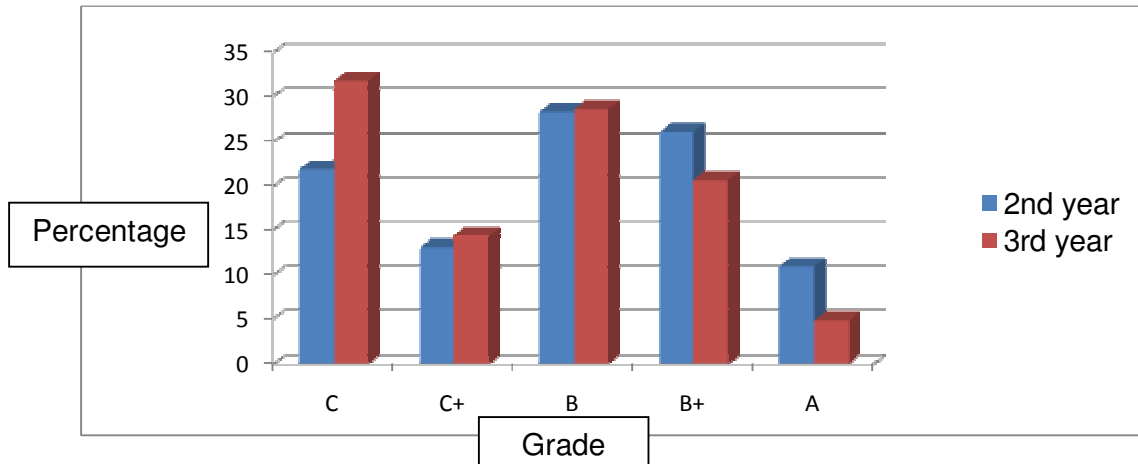
Figure 4.3: Navigation Results

From Figure 4.3, the analysis can be concluded that the trainee achievement in Navigation examination are at the moderate level with most of the trainee getting grade B and B plus. However, the percentage of 3rd year cohort achieving grade C is the main concern with 31.7% (20) of them in this grade.
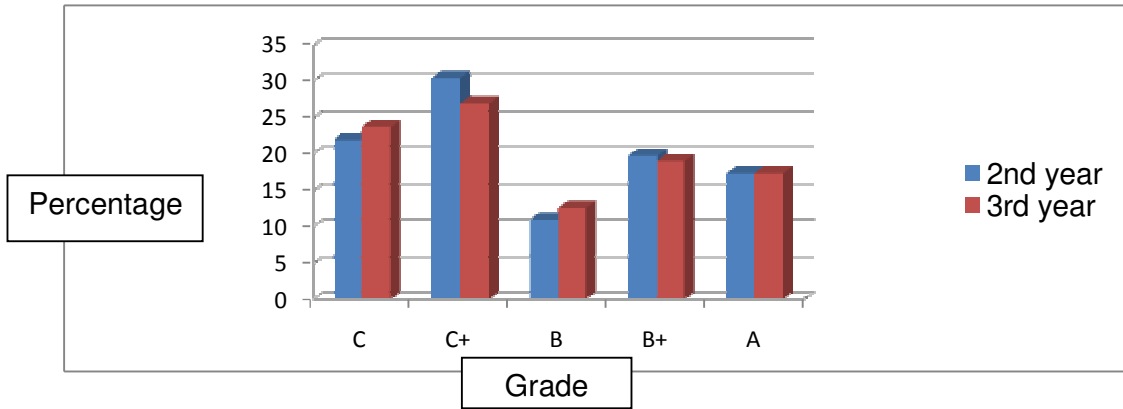
Figure 4.4: Celestial Navigation Results

It is observed from Figure 4.4 that the highest number of trainees were graded C plus for both class of trainees, 17 (27%) 3rd year trainees and 14 (30.48%) 2nd year trainee respectively. However, the percentage of trainees from both cohorts achieved grade A and B plus is quite high – 37.1% (17) of the 2nd year cohort and 36.4% (23) of the 3rd year cohort. From the analysis, the performance of trainees for both classes in Celestial Navigation examination showed that majority of them achieved moderate result, most of them getting grade C and C plus but there are also few of them getting grade A and B plus.
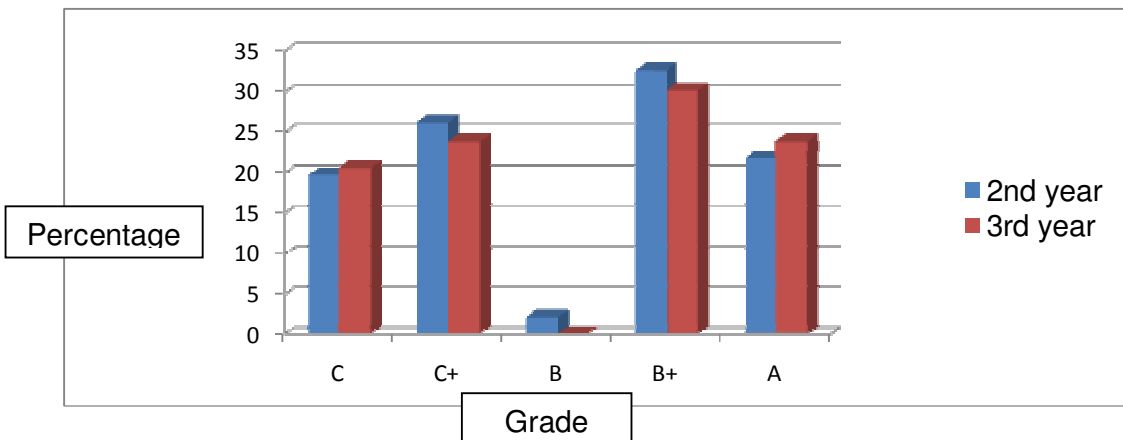
Figure 4.5: Nuclear Biological and Chemical Defense Results

From Figure 4.5, the analysis can be concluded that the trainees' achievement in Nuclear Biological and Chemical Defense examination has

shown good result with majority of them getting Grade A and B plus. The number of the trainees who achieved grade B plus are 19 (30.2%) from the 3rd year cohort and 15 (32.6%) from the 2nd year cohort. However, the number of trainees who achieved grade C and C plus are worrisome and it is a subject of main concern to the organization.
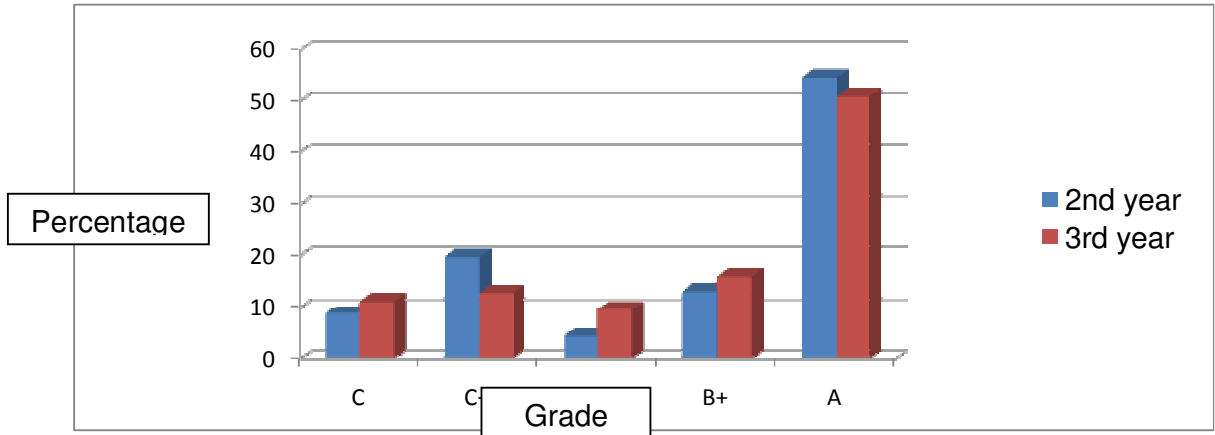

Figure 4.6: Gunnery Results

Figure 4.6 shows there are high numbers of trainees achieved good results in the Gunnery examination with the majority of trainees achieving grade A; for 2nd year achieved 54.3% (25) and 3rd year achieved 50.8% (32). This result indicates the trainees had transferred their knowledge received during sea training to examination.
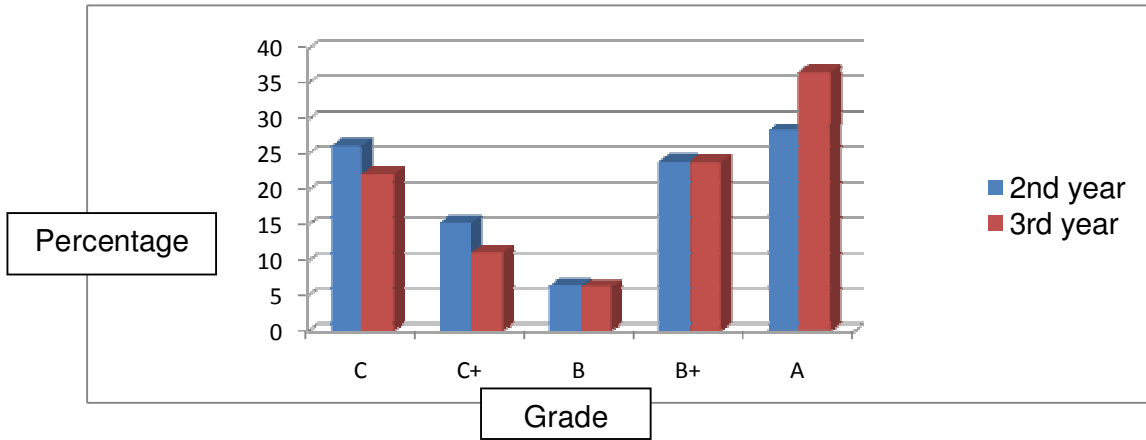
Figure 4.7: Marine Engineering Results

From Figure 4.7, the majority of trainees in both cohorts were graded B plus and A - 38 (60.3%) from the 3rd year cohort and 24 (52.2%) from the 2nd year cohort respectively. However, the number of trainees who achieved grade C are also high, i.e 26.1% (12) from the 2nd year and 22.2% (14) from the 3rd year cohort. From the analysis, the performance of trainees for both classes in Marine Engineering examination showed that majority of them achieved good result, mainly in the grade A and B plus.
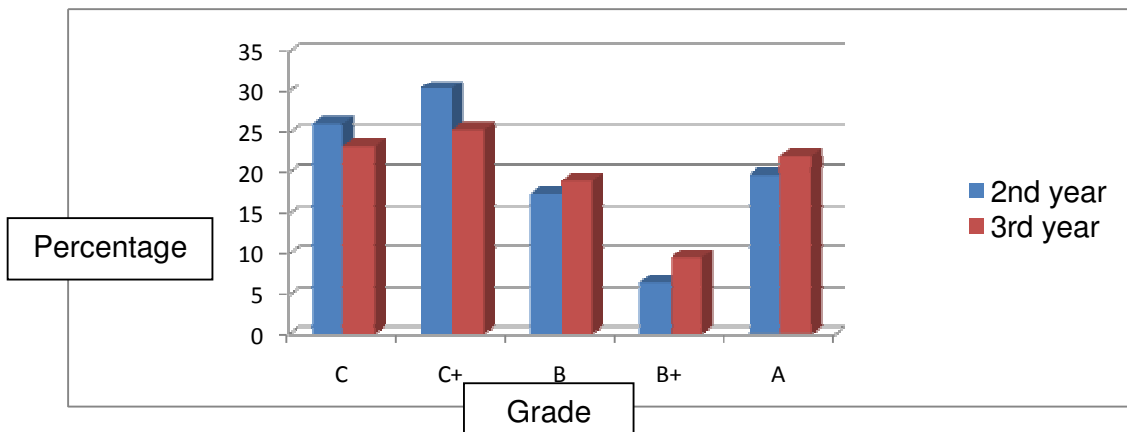

Figure 4.8: Weapon Electrical Results

Figure 4.8 shows the number of trainees in both cohorts who were awarded grade C and C plus is high; 31 (48.8%) from the 3rd year cohort and 26 (56.5%) from the 2nd year cohort. However, there are also many trainees who

achieved grade A and B for both classes. From the analysis, the performance of trainees for both classes in Weapon and Electrical examination showed that majority of them achieved moderate result, most of them getting grade C and C plus.
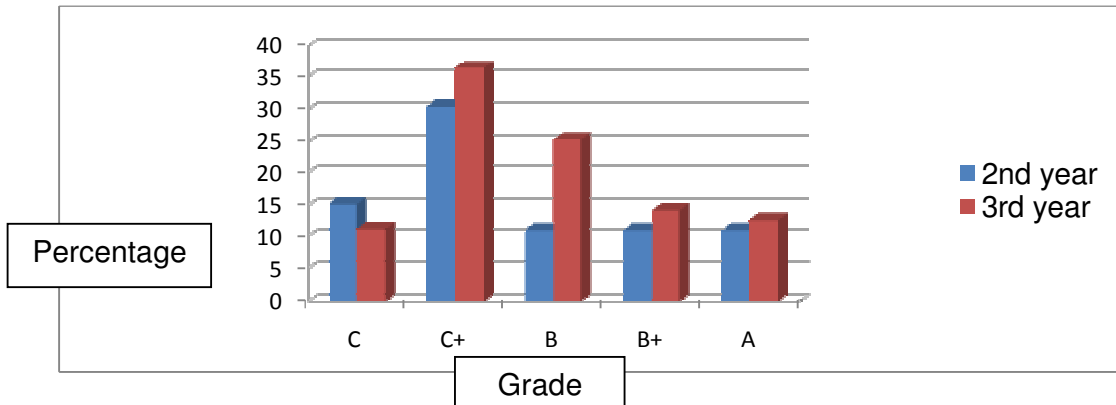

Figure 4.9: Rules of the Road Results

Figure 4.9 shows the majority of the trainees were graded C plus and B for both class of trainees with 39 (61.9%) represent 3rd year trainees and 29 (41.3%) represent 2nd year trainee respectively. From the analysis, the performance of trainees for both classes in Rules of The Road examination showed that majority of them achieved moderate result with most of them getting grade B and C plus. This subject is the core subject and the outcome of the result indicates that the trainees need a lot of improvement since Rules of The Road are frequently used when navigating the ship in the open sea.
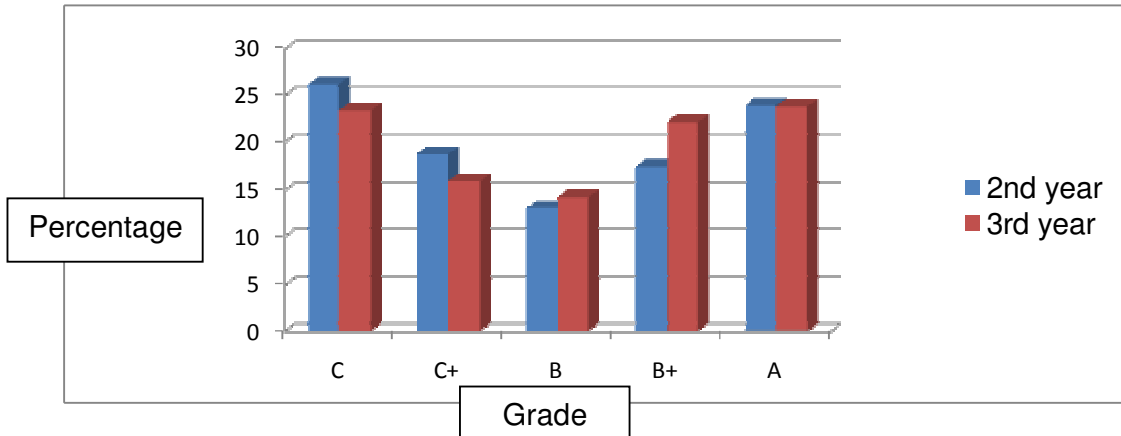
Figure 4.10: Communication Results

Figure 4.10 shows the highest number of 3rd year trainees achieved grades A (23.8% (15)) and grade C (23.8% (15)). Although 46% (29) of the 3rd year trainees achieved good results by attaining grade A and B plus, the main concern is the high number of trainees who obtained grade C. The result for 2nd year trainees are almost evenly distributed between grades A, B plus, C plus and C with the highest number of trainees achieved grade A (23.9% (11)). The results for both classes depict the trainees had achieved good result and indicate they had transferred their knowledge received during sea training to examination.

4.5.3 Summary of the Examination Results – Table 4.10 shows the overall achievement of trainees in ten subjects. The trainees had achieved a moderate result with 22.2% achieved grade C, 24% achieved grade C plus, 13.1% achieved grade B, 17.6% achieved grade B plus and 23.1% achieved grade A. The trainees had achieved good results in the subject Nuclear Biological and Chemical Defense, Gunnery, Mechanical Engineering and Communication with mean more than 3.0. The highest mean score (mean=3.83) is for the subject Gunnery. The trainees had achieved moderate

results in the subject Human Resources Management, Navigation, Celestial Navigation and Rules of The Road, Seamanship and Weapon and Electrical Engineering. The lowest mean score (mean=2.59) is for the subject Seamanship. None of the trainees had failed in any of the subjects. These results had illustrated that the trainees were able to transfer their knowledge to the examination.

Table 4.10: Mean Score Trainees' Overall Examination Achievement

Subject	Grade (Numbers of Trainee)					Average Mean	Inter-pretation
	C	C+	B	B+	A		
Human Resources Management	25	46	0	9	29	2.73	Moderate
Seamanship	35	26	13	19	16	**2.59**	Moderate
Navigation	30	15	31	25	8	2.69	Moderate
Celestial Navigation	25	31	13	21	19	2.80	Moderate
NBCD	22	27	1	34	25	3.12	Moderate
Gunnery	11	17	8	16	57	**3.83**	High
Marine Engineering	26	14	7	26	36	3.29	Moderate
Weapon Electrical	27	30	20	9	23	2.73	Moderate
Rules of the Road	14	37	31	14	13	2.77	Moderate
Communication	27	19	15	22	26	3.01	Moderate
Total Average Mean						**2.96**	Moderate

4.5.4 Basic Job Skills Performance and Personal Attributes

Measurement of the trainees' basic job skill and personal attributes performance are derived from Trainee Performance Report (BAT A 3023A) supported by comments of Commanding Officer of the ship. The Training Officer is responsible to give his report in the Trainee Performance Report based on his observation and feedback from the ship's officer throughout sea training program. The reports are given at the start and end of sea training program. To test for significant differences between the performance of

trainees' basic job skills and personal attributes, an analysis consisted of one-samples *t* test was conducted to investigate whether there were differences with respect to the said variables. The results are shown in Table 4.11.

Table 4.11: One-Sample *t* Test for Trainees' Basic Job Skills and

Personal Attributes

Variables	t	Sig. (2-tailed)	Mean Difference	Std Deviation	Std Error Mean
Basic Job Skill					
Before Sea Training	97.902	.000	25.47706	2.71688	.26023
After Sea Training	120.499	.000	120.499	2.97683	.28513
Personal Attributes					
Before Sea Training	103.457	.000	39.51376	3.98751	.38193
After Sea Training	121.498	.000	49.93578	4.29098	.41100

Table 4.11 showed that there was a significant difference of variables in basic job skill and personal attributes before and after sea training program. For variable basic job skill, the analysis revealed a significant difference before sea training (t(109)= 97.902; mean=25.47706; p<0.00) and after sea training program (t=120.499; mean=120.499; p<0.00). For variable personal attributes, the analysis also revealed a significant difference before sea training (t(109)= 103.457; mean=39.51376; p<0.00) and after sea training program (t=121.498; mean=49.93578; p<0.00). This analysis revealed that the sea training program significantly improved the trainees' basic job skill and personal attributes with increased of t-value and average mean after sea training program.

Table 4.12: Basic Job Skills Performance

Variables	Rank	Basic Job Skill Performance Before Training			Basic Job Skill Performance After Training		
		Mean	S.D	Inter-pretation	Mean	S.D	Inter-pretation
Work Knowledge	2nd	4.13	.687	Moderate	**5.91**	.915	High
	3rd	**4.05**	.705	Moderate	5.57	.837	High
Leadership	2nd	4.07	.772	Moderate	**5.63**	.741	High
	3rd	4.13	.772	Moderate	**5.56**	.667	High
Communication Skills	2nd	**3.98**	.649	Moderate	5.65	.674	High
	3rd	4.17	.708	Moderate	5.75	.782	High
Organization Skills	2nd	4.28	.720	Moderate	5.83	.769	High
	3rd	4.22	.706	Moderate	**5.79**	.845	High
Dependability	2nd	4.39	.577	Moderate	5.76	.639	High
	3rd	4.43	.588	Moderate	5.76	.560	High
Enforce Discipline	2nd	**4.57**	.544	Moderate	5.80	.500	High
	3rd	**4.52**	.592	Moderate	5.76	.560	High

Further analyses of the variable's items were conducted using descriptive statistic technique. Based on Table 4.12, the differences in mean scores between before and after were compared. The mean value before the start of training showed that it is lower than after training. The result depicts those trainees basic job skill had improved after sea training. The highest mean score after sea training for 2nd year cohort is Work Knowledge (mean=5.91) that describes the sea training program had improved trainees' knowledge. The highest mean for 3rd year cohorts is Organization Skill (mean=5.79) showed that the trainee had exposed themselves with the work routine onboard ships and acquired a great amount of skill on how the ship is operated. The lowest variable mean score after sea training for 2nd year cohorts (mean=5.63) and 3rd year cohorts (mean=5.56) is Leadership Skill. The reason Leadership Skill received lowest mark may be due to inability of the trainees to exert their authority and taking charge of the ship company. From research conducted, most of them gave their lack of experience working

onboard ship as the reason for under performing their Leadership Skill. Overall, the knowledge and skill showed an increased of mean values; indication of positive relationship between trainee reaction toward sea training program did improve their performance onboard ship.

Table 4.13: Personal Attribute Performance

Variables	Rank	Performance Achieved Before Training			Performance Achieved After Training		
		Mean	S.D	Inter-pretation	Mean	S.D	Inter-pretation
Dedication	2nd	**4.63**	.488	Moderate	5.65	.526	High
	3rd	**4.68**	.469	Moderate	5.68	.469	High
Responsibility	2nd	4.13	.687	Moderate	5.22	.814	Moderate
	3rd	4.16	.700	Moderate	5.22	.812	Moderate
Trustworthy	2nd	4.43	.501	Moderate	5.52	.586	High
	3rd	4.46	.502	Moderate	5.56	.562	High
Loyalty	2nd	4.57	.501	Moderate	5.70	.591	High
	3rd	4.62	.490	Moderate	5.75	.567	High
Self-Belief	2nd	3.98	.537	Moderate	**5.00**	.596	Moderate
	3rd	3.94	.535	Moderate	**4.94**	.535	Moderate
Initiative	2nd	**3.89**	.605	Moderate	5.09	.784	Moderate
	3rd	**3.89**	.571	Moderate	5.05	.705	Moderate
Appearance	2nd	**4.63**	.488	Moderate	**5.98**	.745	High
	3rd	**4.68**	.469	Moderate	**6.06**	.759	High
Social Interaction	2nd	4.50	.506	Moderate	5.80	.719	High
	3rd	4.49	.504	Moderate	5.78	.706	High
Physical Fitness	2nd	**4.63**	.488	Moderate	5.85	.729	High
	3rd	**4.68**	.469	Moderate	6.00	.762	High

From Table 4.13, the highest mean score achieved after sea training for both cohorts is item 'Appearance', the mean for 2nd year cohorts is 5.98 and mean for 3rd year cohorts is 6.03. This result correlates with the training requirement which require the trainees to maintain positive attitude and good appearance. The lowest mean score for both cohorts is item Self-Belief with mean=5.00 represents 2nd year cohorts and mean=4.94 represents 3rd year cohorts respectively which indicate the trainees lack of self-confidence while undergoing training. This result showed that due to inexperience, the trainees

are unsure whether they have applied the correct work procedure. However, all items did show an increased of mean value after the trainees have completed the sea training. Item Self-Belief increased from 3.98 to 5.00 for 2nd year cohorts and 3.94 to 4.94 for 3rd year cohorts. Item Appearance increased from 4.63 to 5.98 for 2nd year trainees and for 3rd year trainees increased from 4.68 to 6.06. These results signal the positive relationship between design of training program, supervisor support and trainees' motivation to learn with trainees' performance onboard ship.

4.6   Discussion of the Results

This section will provide the results of the statistical analysis used to test the study's four hypotheses. Each analysis is followed by the rationale for the choice of statistical test and the statistical analysis.

4.6.1 *H1: There is a positive relationship between design of training program and training outcomes.* SUPPORTED

To determine the relationship hypothesized by H1, variable design of the training program was measured against variable course satisfaction using bivariate correlation. Results of correlations revealed that the relationship between dependant variables course satisfaction and independent variables design of training program is positive; suggesting that design of the training program was positively associated with course satisfaction. This finding correlate with Montesino (2002) that a trainee who saw the connection of the training program with the strategic direction of the organization would be able to apply the job skills and knowledge he learned in the training program. Descriptive statistic technique was used to analyze the items of variable

design of training program in depth. It appears from these results that the trainees feel the contents of their training program meet their needs. The results also suggest that the contents of sea training program will enhance the trainees desire to perform onboard ship. As Weng (2001) stated a training program that can provide maximum benefits to the participants if what they learned during the course can be used at their workplace.

4.6.2 *H2: There is a positive relationship between course supervisor's support and trainee's performance.* SUPPORTED

To determine the relationship hypothesized by H2, independent variable course supervisor's support was measured against dependent variable course satisfaction using bivariate correlation. Results of correlations also revealed that the correlation between the two variables is positive, suggesting that supervisor support was positively associated with course satisfaction. Further analysis by using descriptive statistic technique, describes that the trainees agreed that with the support from supervisor, they perceived that they can transfer their newly acquired knowledge and skills to their work onboard ship. They felt it was important to them that the supervisor supported and reinforced the use of learning on the work and that the supervisor is knowledgeable, well organized sessions, well prepared, had good delivery style, responsive to group and produced a good learning climate when applying new abilities or attempting to improve work performance in their work environment. These results lend support to the previous study by Baldwin and Ford (1988) that found support from the supervisor has a critical influence for successful transfer of learning.

4.6.3 *H3: There is a positive relationship between trainee's motivation to learn and training outcomes.* SUPPORTED

Bivariate correlation was used to determine the relationship hypothesized by H3, independent variable trainee's motivation to learn was measured against dependent variable course satisfaction. Results of correlation revealed that the correlation between dependant variables course satisfaction and independent variables motivation to learn is positive, suggesting that motivation to learn is positively associated with course satisfaction. The results also showed that trainees' perception on motivation to learn is the highest positively correlation (r=0.619) among the three correlation namely design of training program and supervisor support. This finding is consistent with the study by Naquin and Holton (2003) that trainees who have with high motivation to learn will use and applies what they have learned in the training program. Descriptive analysis technique revealed that the mean for motivation to learn describes trainees agreed they were motivated to utilize learning in their work. This includes the degree to which they feel able to perform, and to use new skills and knowledge, and believe new skills will help them to perform more effectively on the job (Holton, 2004). On average, they agree that all items except 'The training establishment has provided necessary needs for trainee in term of administration' and 'The training accommodation (training room, ship accommodations and facilities, etc) are well equipped for trainee used' supported their motivation to learn in enhancing trainees' persistent of effort toward applying their skills and knowledge learned during training in a work setting. Their dissatisfaction with these 2 items has been offset by the other items.

4.6.4 *H4: Sea training program will increase the training effectiveness in term of reaction based on trainees' course satisfaction; learning based on the results of the examination: and behavior based on positive increments of basic job skills and personal attributes.* ALL LEVEL SUPPORTED

Descriptive statistic technique was used to analyze the items in the variables course satisfaction. Results from the average means for course satisfaction describes the trainees agreed that they perceived that they can transfer their newly acquired knowledge and skills to the work onboard ship. Their level of motivation had also increased after sea training program. Others mean of trainees' self ratings ranged from 3.76 to 4.44, which are relatively high, indicate that the trainees perceived sea training program as effective in helping the trainees to undertake their future job performance. This finding support the study by Wexley and Baldwin (1986) who had investigated trainees' satisfaction with the usefulness of the training at work and suggested that trainees' satisfaction toward training program will lead to work better and more efficiently.

Summary of the results from ten subjects' examination illustrated that the trainees were moderately able to transfer their knowledge to the examination. Using examination results as part of the evaluation of training performance is consistent with study by Hallinger (1967) who suggests that one of the main tasks of a trainer is to test the training effectiveness and to validate that the selected training methods have achieved the desired results.   The trainees had achieved good results in the subject Nuclear Biological and Chemical Defense, Gunnery, Mechanical Engineering and Communication with mean more than 3.0. The highest mean score (mean=3.83) is subject Gunnery.

The trainees had achieved moderate results in the subject Administration, Navigation, Celestial Navigation and Rules of The Road, Seamanship and Weapon and Electrical Engineering. The lowest mean score (mean=2.59) is subject Seamanship. None of the trainees had failed in the subjects.

One-sample *t* test was conducted to test the significant differences of variables in trainees' basic job skills and personal attributes related to sea training program.   The results from analysis revealed that the sea training program significantly improved the trainees' basic job skill and personal attributes with an increased in t-value and average mean after sea training program. Further analyses of the variable's items using descriptive statistic technique were conducted to assess the trainee's performance.   Tracey et al (1995) stated that performance in training programs can be viewed as an additional indicator of core task performance because the purpose of most organizational training programs is to enhance the skill levels of employees on core tasks. Means of trainees' basic job skills and personal attributes at the completion of the sea training program improved from moderate level to high level. In addition, the sea training program had a strong positive impact on the trainees' behavior at the completion of the training. The observed effect is in line with the outcomes of previous research by Mathieu et al. (1992) who suggested that the most effective training programs are those which change behavior on the job in a constructive way. The real driving force for training would then be whether the training makes an individual or group of people more productive, efficient or useful to an organization.

4.7 Summary

The chapter highlighted on the analysis and the findings of the research. The profile of the respondent were analyzed which showed various demographics information of the respondents. The bivarate correlation analysis accepts Hypothesis 1, 2 and 3. For H4, descriptive statistic and one-sample t test results revealed that the sea training program significantly improved Level 1, Level 2 and Level 3 trainees' evaluation. A standard multiple regression was used to determine whether there is a significant relationship between the dependant variable and the multiple independent variables, when taken as a group. The variables measured were the dependent variable course satisfaction and the independent variables design of the training program, supervisor support and motivation to learn. Results from multiple regression showed that this study had scrutinized the relationships between contextual predictors and of training outcomes. In addition to the discovery that H2 was partially supported, this study supported hypotheses H1 and H3. Particularly, it found that the training design, supervisor support and motivation to learn affected the attitudes of trainees and subsequently in turn impacted training outcomes.

The findings of this study confirmed the importance of trainee's motivation to learn is the most contribution factor that leads to trainees' performance onboard ship. This finding was consistent with previous studies by Mathieu and Martineau (1997) that trainees who possess training-related experience (i.e. knowledge, skills and attitudes) would exhibit a curvilinear relationship with their training motivation to develop the knowledge, skills and attitude

targeted in training. Thus, when organizations require trainees to attend training programs, they should provide the necessary information and guidance support from instructor to the trainees in order to increase their familiarity with the contents of training and elevated their motivation. Consequently, the training motivation among trainees could be strengthen and training outcomes would be increased.