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Research Article

Instructional Competence and Faculty Performance among Maritime Schools in Central Luzon

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ABSTRACT

The study investigated into the maritime faculty quality and excellence in education, mainly because they oversee facilitation of their students learning experiences. The effectiveness of their teaching is one of the factors that determine how well students' cadets would do in their voyage towards knowledge and acquisition. Thus, the advocacy to promote academic excellence and quality maritime education in the Philippines, as Philippine Merchant Marine Academy aims to be a center of maritime research making this institutional research in a regional scope to evaluate the instructional competence and faculty performance among maritime schools in Central Luzon. Descriptive survey design was used and this research was conducted in the tertiary level of the public and maritime schools in Region III. School year 2018-2019. The locale of the study is the three school duly recognized by Commission on Higher Education (CHED). The respondents of the study were twenty-eight (28) technical maritime faculty from central Luzon offering a program of study of Bachelor of Science in marine transportation and in Bachelor of Science in marine engineering. Questionnaire was the main instrument used for the data collection. Pearson Moment Correlation, ANOVA, means, percentages and standard deviations were used to analyze the data. The results of the study showed that the quality of teachers was high in terms of their academic and professional qualifications, and it did reflect much in the performance of the students.

Keywords: Maritime education, Academic preparation, Shipboard training, Performance evaluation, International vessels, Philippines

Introduction

Faculty are maneuvers of the education system. The strength of an educational system largely depends upon the competence and performance of the faculty. The quality of a faculty is a major criterion for offering quality education. A faculty has always been considered as one of the noblest human beings and as the second parent of students. It has been proved that the faculty has an important influence on students' academic achievement (Perera and Quinlivan, 2013) and play a crucial role in educational attainment, as the faculty is ultimately responsible for translating policy into action

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and principles based on practice during interaction with the students.

Students are the key assets of educational instructions. The maritime students' performance plays an important role in producing quality maritime graduates who will become great leader and workforce for the country thus, responsible for the country's economic and social development. Rahaman (2010) describes that faculty are professionally trained and certificated to manage and control instructional process in the school.

Muijs and Reynolds (2015) claimed that how a faculty teaches becomes a vital key in promoting effective teaching and learning to the students. The researchers took an interest in the study of the technical maritime faculty instructional competencies in which affect the learning of the maritime students whom they are teaching. Instructors/Professors must be aware of their own level of competency and performance to be extra conscious of how their teaching affects the learning of the students. Given the current demands of various maritime schools in the Philippines with regard to the teacher's competency, the researchers have chosen to look into this study to expand their knowledge on the situations and the possible remedies to some existing problems. Upon noticing the impact of the quality of education to the future of the maritime students, the researchers came up with a common view that the present condition of the technical maritime faculty competencies and performance could still raise higher.

The Qualitative Contribution Evaluation (QCE) of the National Budget Circular No. 461 practices of the State Universities and Colleges (SUC's) is an integral and effective component of total quality assurance in public tertiary education. It is designed to make an effective motivator for the development of a culture of excellence in Instruction, Research, Extension, and Production. That QCE would make as an effective reliable measure for faculty ranking among the public tertiary institution. The manual of operation of QCE NBC No.461 will be helpful in the conduct of QCE to the school system in reference to the objectives of it, as it is done in order to attain and achieve its very objectives towards quality and excellence in education through the performance and competencies of the faculty in the public tertiary institution.

The primary focus of the study is the maritime faculty quality and excellence in education, mainly because they are in charge of the facilitation of their students' learning experiences. The effectiveness of their teaching is one of the factors that determine how well student cadets would do in their voyage towards knowledge acquisition. Thus, the advocacy to promote academic excellence and quality maritime education in the Philippines, as Philippine Merchant Marine Academy aims to be a center of maritime research making this institutional research in a regional scope to evaluate the instructional competence and faculty performance among maritime schools in Central Luzon.

Methodology

The descriptive survey method was used in this study to provide an adequate cross-section of information for comparison and interpretation. It was considered the appropriate method in gathering facts for profile data as well as in scaling responses for relationship.

The survey allowed the gathering of data regarding the present conditions, providing the value of facts and focusing attention in the most important things to be reported (Calmorin, 2007).

The descriptive-survey helped determine the psychological and social aspects of the respondents' profile and answer the problems of the study without resorting to an experiment (Calmorin and Calmorin, 1997).

This research was conducted in the tertiary level of the public and public maritime schools in Region III school year 2018-2019. The locale of the study is the three (3) maritime schools duly recognized by the Commission of Higher Education.

Table 1. Frequency distribution of respondents per institution

Central Luzon Maritime School	College of Marine Transportation	College of Marine Engineering	Total	Percentage (%)
Midway Maritime Foundation Inc	2	3	5	17.85
Maritime Academy of Asia and the Pacific	4	7	11	39.29
Philippine Merchant Marine Academy	5	7	12	42.86
	Total		28	100.00

The respondents of the study were twenty-eight (28) technical maritime faculty from Central Luzon offering a program of study of Bachelor of Science in Marine Transportation and Bachelor of Science in Marine Engineering as follows: Maritime Academy of Asia and the Pacific (4 and 7) with eleven (11) or 39.29 percent respondents, Midway Maritime Foundations Inc (2 and 3) with five (5) or 17.85 percent respondents and Philippine Merchant Marine Academy (5 and 7) with twelve (12) or 42.86 percent respondents.

This research made use of survey questionnaire as major tool in the gathering of data. The questionnaire was divided into four evaluations. Self-Evaluation has two parts. Part I gathered information on the respondents' profile of the technical maritime faculty in terms of sex, highest educational attainment, eligibility/license and length of service in teaching experience and shipboard experience. Part II was the competency-based assessment instrument of respondents, which is the same for peer evaluation and head/dean evaluation. The standard assessment is based on Qualitative Contribution Evaluation (QCE) of the National Budget Circular (NBC) no. 461 procedure.

The manual of operation in the conduct of QCE to the school system in reference to the objectives of it, as it is done in order to attain and achieve its very objectives toward quality and excellence in education through the performance and competencies of the faculty in tertiary institution. The QCE is a validating factor of CCE for instructors, assistant professors and associate professors that are focused on instructions/teaching effectiveness was evaluated using the following assessment areas in commitment, knowledge of subject, teaching for independent learning and management of learning with corresponding weighted points. Each area has a number of criteria and allotted of total 25 points.

Table 2. Analysis and Result

Scale	Descriptive Rating	Qualitative Description
5	Outstanding	The performance usually exceeds job requirements. The faculty is an exceptional role model.
4	Very Satisfactory	The performance meets and often exceeds the job requirements.
3	Satisfactory	The performance meets job requirements.
2	Fair	The performance meets some development to meet job requirement.
1	Poor	The faculty fails to meet job requirements.

The total raw point for the assessment area is 100. The raw points gathered in each of the four assessment areas are multiplied by the corresponding weight.

The total QCE point of the faculty is the sum of the weighted point (product of QCE point per evaluator and the given percentage) of all four categories of evaluators: supervisor (30%), students (30%), peers (20%) and self (20%).

A request was made through the president or vice president of academics to administer the research questionnaire with the help of a guidance counselor/ personnel of the school (Appendix Q). The data gathered were classified, encoded and summarized. The researcher analyzed and interpreted the findings of the study following the sequence of the problems with the help of a statistician.

The survey data were analyzed using the Statistical Package Software (SPSS version 16.0) of Windows 1997 (Levesque, 2007). The researcher used the following statistical methods in order to present reliable interpretation of the data:

1. Frequency and percentile was used to establish the level of the instructional competence and faculty performance of the selected respondents and the demographic profiles of the respondents in terms of sex, highest educational attainment, eligibility/license, teaching experience and shipboard experience.
2. Analysis of Variance (ANOVA) was employed to measure the significant difference in the dimensions of instructional competency of technical maritime faculty when grouped according to their demographic profiles in students' evaluation, immediate supervisors' evaluation, peers evaluation and self-evaluation.
3. Pearson Product Moment Correlational Coefficient (r) was employed to determine the relationship between the dimensions of instructional competence to the faculty respondent is evaluated by self, peers, students and immediate supervisor/s and the relationship of the overall instructional competence to the overall performance of the maritime faculty in Central Luzon.

Results and Discussion

Profile of respondents

Technical faculties in maritime schools in Central Luzon are mostly composed of male teachers, with a percentage of 96.43 respondents. 16 teachers (57.14% of the respondents) finished bachelor's degree. 32.14% of the respondents (9 teachers) are licensed captain or chief engineers. 9 teachers (34.12% of the respondents) have 1 to 5- year teaching experience and 7 teachers (25% of the respondents) have 21-30 years of shipboard experience. Table 3 presents the other information pertaining to the profile of the respondents.

Table 3. Profile of the Respondents of the Study

Variables	Category (f)	CMT			CME		TOTAL
		f	**%**		**f**	**%**	
Sex		*(n =11)*			*(n = 17)*		
	Male	11	(100)		16	(94)	**27**
	Female	0	(0)		1	(6)	1
Highest Educational Attainment		*(n =13)*			*(n = 15)*		
	Bachelor's Degree	7	(54)		9	(60)	**16**
	with Units in Master's Degree	1	(8)		3	(20)	4
	Master's Degree	4	(31)		2	(13)	6
	with Units in Doctorate Degree	1	(8)		1	(7)	2

Variables	Category (f)	CMT			CME		TOTAL
		f	**%**		**f**	**%**	
Eligibility/ License		*(n =13)*			*(n = 15)*		
	Captain/ Chief Engineer	4	(31)		5	(33)	**9**
	Chief Mate/Second Engineer	4	(31)		3	(20)	7
	Second Mate/Third Engineer	2	(15)		2	(13)	4
	Third Mate/Fourth Engineer	0	(0)		5	(33)	5
	Others	3	(23)		0	(0)	3
Teaching Experience		*(n =11)*			*(n = 17)*		
	less than 1 yr	3	(27)		5	(29)	8
	1-5	3	(27)		6	(35)	**9**
	6-10	2	(18)		1	(6)	3
	11-15	2	(18)		3	(18)	5
	16-20	1	(9)		0	(0)	1
	21-30	0	(0)		0	(0)	0
	31-35	0	(0)		1	(6)	1
	36 above	0	(0)		1	(6)	1
Shipboard Experience		*(n =11)*			*(n = 17)*		
	less than 1 yr	0	(0)		1	(6)	1
	1-5	1	(9)		3	(18)	4
	6-10	1	(9)		5	(29)	5
	11-15	0	(0)		0	(0)	0
	16-20	4	(36)		1	(6)	5
	21-30	4	(36)		3	(18)	**7**
	31-35	0	(0)		0	(0)	0
	36 above	1	(9)		4	(23)	5

Teaching practices

Table 4 reveals that the technical maritime faculty in Central Luzon performed at a highly competent level in the different dimensions of instructional competence. The finding implies that maritime faculty has a deep sense of responsibility to the development of the students' well-being, capable and expert in their field of teaching and has the ability to organize teaching-learning processes, to create and manage a conducive learning environment, at the same time guide, monitor and evaluate student learning.

Table 4. Level of instructional competence of Technical Maritime Faculty in terms of dimensions

Instructional Competence	Dimensions	Mean	Standard Deviation	Level of Competence
Teaching Practices	Commitment	4.41	0.17	Highly Competent
	Knowledge of the Subject	4.40	0.16	Highly Competent
	Teaching for Independent Learning	4.30	0.27	Highly Competent
	Management of Learning	4.35	0.21	Highly Competent
	Overall Mean	4.37		Highly Competent

Note:

Value Range	Description
1.00-1.79	Not Competent
1.80-2.59	Less Competent
2.60-3.39	Moderately Competent
3.40-4.19	Competent
4.20-5.00	Highly Competent

Faculty performance evaluated in first semester

Table 5 presents the level of performance of maritime technical faculty evaluated by self, peers, students and head/dean.

As shown in Table 5, the self-evaluation has the highest equivalence of 90.89 with the description level of performance as very good. The peers, students and head/dean were in the same grade equivalence of 1.75 with a good level of performance.

Table 5. Level of performance of Maritime Technical Faculty

Central Luzon	Evaluation	Equivalence	Grade Equivalence	Level of Performance
Maritime Technical Faculty	Self	90.89	1.50	Very Good
	Peers	88.33	1.75	Good
	Students	86.24	1.75	Good
	Head/Dean	85.04	1.75	Good

Overall performance level

Table 6 shows the overall performance level of technical maritime faculty evaluated by self, peers, students and immediate supervisor/s.

As presented in Table 6, the self-evaluation with twenty (20) percent resulted 18.18 points and the immediate supervisor/s with a criterion of thirty (30) percent gained a 25.51 performance point. The overall performance level of 87.23 to Qualitative Contribution Evaluation (QCE) of National Budget Circular (NBC) No.461 falls under the sub-rank assistant professor II.

Table 6. Overall perfomance level of the Technical Maritime Faculty

Evaluators	Average Rating	Performance Point
Self	90.89	18.18
Peers	88.33	17.66
Students	86.24	25.87
Head/Dean	85.04	25.51
Overall Performance Level		87.23

Dimensions of competence evaluated

Table 7 shows the t-test significance in the dimensions of instructional competence based on the evaluation of students, supervisor/s, peers and self.

As reflected in Table 7 in the dimensions of instructional competence of commitment, the -0.488 self-evaluation of maritime faculty to students means a moderately strong negative correlation. This means that the commitment of technical faculty does not matter to students. Students implied that technical faculty should commit to teach them. The self-supervisor evaluation in knowledge of subject dimension has an R-value of -0.489 defined with moderately strong negative correlation. In this dimension of instructional competence, the technical maritime faculty possess knowledge about the subject differs on how supervisor views. Supervisors evaluate the faculty with less to what the technical faculty expects.

Table 7. T-test for significance in dimensions of instructional competence based on the evaluation of students, supervisor, peers and self

Evaluation	Dimensions of Instructional Competence			
Student	Commitment	0.134 (very weak correlation)	-0.127 (very weak negative correlation)	-0.343 (weak negative correlation)
Supervisor	0.169 (very weak correlation)	Knowledge of Subject	0.225 (weak correlation)	-0.059 (very weak negative correlation)
Peer	-0.166 (very weak negative correlation)	-0.177 (very weak negative correlation)	Teaching for Independent Learning	0.378 (weak correlation)
Self	-0.488 (moderately strong negative correlation)	-0.489 (moderately strong negative correlation)	-0.127 (very weak negative correlation)	Management of Learning
Evaluators	Student	Supervisor	Peer	Self

Variations in the performance level when grouped according to respondent's profile

Table 8 shows the Analysis of Variation table for variations in the performance level when grouped according to respondent's profile. For school, educational attainment, eligibility, teaching experience and shipboard experiences, the computed F value is not significant within 0.05 level. Therefore, the null hypothesis is accepted. There is no significant variation when grouped in these variables.

For course, the computed F-value is 22.646, which is significant at 0.05 level. The null hypothesis is rejected. Therefore, there is a significant variation in the performance level of faculty when grouped according to course of Bachelor of Science in Marine Transportation and Bachelor of Science in Marine Engineering.

Table 8. ANOVA table for the variations in the performance level when grouped according to respondent's profile

Variable		Sum of Squares	Df	Mean Square	F	Sig.	Decision
School	Between Groups	0.044	2	0.022	0.603	0.555	Accept Ho (Not Significant)
	Within Groups	0.911	25	0.036			
	Total	0.995	27				
Course	Between Groups	0.444	1	0.444	22.646	0.000	Reject Ho (Significant)
	Within Groups	0.510	26	0.020			
	Total	0.955	27				
Educational Attainment	Between Groups	0.012	3	0.004	0.099	0.960	Accept Ho (Not Significant)
	Within Groups	0.943	24	0.039			
	Total	0.955	27				
Eligibility	Between Groups	0.334	5	0.067	2.265	0.085	Accept Ho (Not Significant)
	Within Groups	0.619	21	0.29			
	Total	0.953	26				
Teaching Experiences	Between Groups	0.266	5	0.053	1.624	0.197	Accept Ho (Not Significant)
	Within Groups	0.687	21	0.033			
	Total	0.953	26				
Shipboard Experiences	Between Groups	0.122	4	0.030	0.806	0.535	Accept Ho (Not Significant)
	Within Groups	0.831	22	0.038			
	Total	0.953	26				

Instructional competence and performance level

Pearson (r) was employed to test the relationship between instructional competence and maritime faculty performance (Table 9).

The computed r- value of 0.991 shows very high positive correlation. Thus, the research hypothesis of no significance was rejected. The findings show that at 5% significance level, the data provide the sufficient evidence to conclude that instructional competence and faculty performance are strongly related.

Table 9. t-test for significance of instructional competence and faculty performance

		Performance
Instructional Competence	Pearson Correlation	0.991
	Sig. (2-tailed)	0.000
	N	2

Conclusion

The following conclusions were drawn based on the findings:

1. The technical maritime faculty in Central Luzon performed at a highly competent level in the different dimensions of instructional competence.
2. The faculty performance of the Central Luzon maritime schools for self-evaluation was very good. The peers, students and supervisor/s evaluated the maritime faculty performance level as good.
3. The overall performance level of teacher-respondents was described with a performance point of 87.23.
4. There is a moderately strong negative correlation between self and student evaluation and the self and supervisor evaluation.
5. There is no significant difference in the performance level when grouped according to respondent's profile school, educational attainment, eligibility, teaching experience and shipboard experiences while there is there is a significant variation in the performance level of faculty when grouped according to course of Bachelor of Science in Marine Transportation and Bachelor of Science in Marine Engineering.
6. Pearson r shows that instructional competence and maritime faculty performance is very high positive correlated.

Recommendations

In the light of the significant findings and conclusions of the study**,** the following recommendations are being posited:

1. School administrators should closely monitor the teaching performance of maritime educators and maintain their positive outlook in educating maritime students by taking into considerations the work-related factors that contribute to their excellent teaching performance.
2. Maritime School institutions may review their selection process in recruiting and look into the possibility of integrating Training for Instructors Model course 6.09 as one of the criteria in the hiring process.
3. The results of this research could serve as basis for the development of a teaching enhancement program for technical maritime faculty in assessing their strengths and weaknesses in teaching. Administrators may provide programs and activities that will motivate faculty to improve better their performances.
4. As for the validation of the questionnaire, the researchers recommend to the future researchers to get validators who are expert in the field and at the same time who are teaching so that the validators may consider the level of comprehension of the respondents concerning technicality of the study being conducted.
5. Further studies could be conducted covering a larger sample size to take into account the effect of instructional competence and faculty performance and vice-versa in order to arrive at more accurate conclusions. Other factors of the instructional competencies of the faculty should continually be identified.
6. Similar studies may be conducted in other disciplines of learning to verify the results of this study.

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