JOURNAL OF MARITIME RESEARCH

Vol XXIII. No. I (2026) pp 102–104

ISSN: 1697-4840, www.jmr.unican.es

Maritime Students' Competence in International Shipping Federation: Training Record Book (ISF-TRB) – Based Navigation

Norberto J. Camarines Jr.[1,*]

ARTICLE INFO

Article history:
Received 03 Mar 2025;
in revised from 15 Mar 2024;
accepted 19 May 2025.

Keywords:
Performance, Maritime Students, International Shipping Federation Training Record Book, Navigation .

ABSTRACT

Ships accident happened due to incompetent individual. The study determined the performance of maritime students in International Shipping Federation – Training Record Book (ISF- TRB) at Biliran Province State University, Naval, Biliran. Descriptive research design was used in this study. There were one hundred (100) respondents. The researcher utilized quota sampling method. Final grades in terrestrial & electronic navigation, and performance (*written & oral assessments*) of the students were used as secondary data. Data taken from 2021 to 2023. Pearson product moment correlation was employed to test the significance of the identified variables. Results revealed: majority of them obtained very good grades in navigations; ninety-three (93%) percent were competent, seven (7%) percent evaluated not competent based on ISF-TRB, and there was a small positive relationship between final grades and students' performance ISF-TRB- Based Navigation. Navigation courses should be aligned to the students' competencies based on the ISF-TRB standards so that students will become more globally competitive and efficient seafarers in the future.

1. Introduction.

The common causes of ship accidents are due to lack of seafarer's competence. Historically, there have been a lot of examples of accidents occurred worldwide. One of the most known ship accidents was the sinking of Titanic last April 15, 1912 which had taken more than one thousand five hundred lives (Yu, 2012), while in the Philippines, the sinking of Doña Paz, a passenger ship in Leyte, Province, Philippines, that have also become a tragedy for families of those who died (Perez et al., 2011). These are just a few of many examples of the accidents happened due human error. However, this can be corrected when future seafarers are competent and motivated to handle the specific task that found in the ISF-TRB.

To determine the performance of maritime students in international shipping federation training record book (ISF-TRB). The maritime students upon apprenticeship either onboard domestic or international fleets should have an international shipping federation training record book (ISF-TRB). This book is a mandatory and serves as their guide onboard ship for one year training. The book shows the records of maritime students' whether the trainees were competent or not during navigation. The competence in navigation was indicated in Section 6 of the International Shipping Federation – Training Record Book for Deck Cadets (ISF-TRB, 2009).

Further, the details of the ISF-TRB were the training tasks that students should follow to make them competent in the field of navigation. The competence was arranged into a framework that brings together a number of job roles and required capabilities that the job holder must met or acquired in order to perform the job effectively. The ISF-TRB also was used by the students in order to provide documentary evidence to government appointed assessors of having completed a properly structured onboard training programmed in accordance with STCW '78 as amended (IMO, 2011).

Since the ships today had built-in advance system specifically larger ships, it is therefore significant that the seafarers

[1]Biliran Province State University ? Naval campus, Naval, Biliran Philippines.

[*]Corresponding author: N. Camarines Jr. E-mail Address: norberto.camarines@bipsu.edu.ph.

should acquire the required knowledge and skills to increase safety of navigation in a rapidly changing environment (Bergmann, 2013).

In order to bridge these gaps, maritime students' competence is needed and this study was conducted to make possible for the students become globally competitive and efficient seafarers in the future. In addition, it could help eliminate the ship's accidents at sea.

2. Objectives of the Study.

This study answered the following objectives:

1. To determine the students' final grades in terrestrial and electronic navigation 1 & 2.
2. To find out the performance of maritime students based on ISF-TRB.
3. To test the relationship between students' final grades and performance based on ISF- TRB.

3. Methodology.

This section presents the research design, respondents of the study, locale of the study, research sampling techniques, research instrument, data gathering procedures, and data analysis.

3.1. Research Design.

A descriptive correlation research design was used of this study. Secondary data were utilized to determine the students' final grades and performance in navigation. Standardized tests *(written and oral assessment)* were used to determine students' performance in navigation based on ISF-TRB.

3.2. Respondent of the Study.

The respondents of this study were 100 selected graduated of the program, Bachelor of Science in Marine Transportation (BSMT) at Biliran Province State University, Naval campus, Biliran – Eastern Visayas Region, Philippines.

Table 1: Distribution of Respondents.

Respondents	*Frequency*	*Percentage (%)*
Male	80	80%
Female	20	20%
Total	100	100%

Source: Author.

3.3. Locale of the Study.

This study was conducted at Biliran Province State University, Naval campus - Biliran Island, Philippines. This locale was chosen, since the students graduated from this university.

3.4. Research Sampling.

A quota sampling of 100 graduated BSMT students were utilized on this study with onboard various types of ship in domestic and international fleets.

3.5. Research Instrument.

The researcher was utilized the following secondary data: the final grades in terrestrial navigation and electronic navigation subjects taken from the registrar's office and students' performance in navigation based on ISF-TRB from the shipboard training office.

3.6. Data Gathering Procedures.

The researcher prepared and sent a letter request to the President for approval. After the approval, immediately the researcher went to the shipboard training office for retrieval of the data that stored in the system.

3.7. Data Analysis.

The exact statistical tool was used to analyze the data includes: percentage, frequency, and Pearson product moment correlation was utilized for the significant relationship between variables.

3.8. Data Scoring.

Figure 1: Scoring for students' final grades in navigations.

Scale	*Grading Ranges*	*Description*
5	1.0 – 1.4	Excellent
4	1.5 – 1.9	Superior
3	2.0 – 2.4	Very Good
2	2.5 – 3.0	Good
1	3.1 – 5.0	Failed

Figure 2: Students' performance in Navigation based on ISF-TRB.

Grade (%)	*Description*	*Frequency*	*Percentage (%)*
75 – 100	Competent	93	93%
Below 75	Not competent	7	7%
Total		100	100%

4. Results.

Table 2: Students' final grades in terrestrial navigation 1 & 2.

Grades Ranges	*Description*	*Frequency*	*Percentage (%)*
1.0 – 1.4	Excellent	0	0.00%
1.5 – 1.9	Superior	15	15.00%
2.0 – 2.4	Very Good	74	74.00%
2.5 – 3.0	Good	11	11.00%
3.1 – 5.0	Failed	0	0.00%
Total		100	100%

Source: Authors.

Table 2 shown the students' final grades in terrestrial navigation 1 and 2, out of one hundred (100) respondents, seventy-four (74%) percent got very good grades; fifteen (15%) percent

obtained superior grades; and eleven (11%) percent evaluated good grades. This indicated that majority of the respondents' intelligent quotient were in the average level on the subject and no one failed because all of them graduated already of the program BSMT.

Table 3: Students' final grades in electronic navigation 1 & 2.

Grades Ranges	Description	Frequency	Percentage (%)
1.0 – 1.4	Excellent	0	0.00%
1.5 – 1.9	Superior	15	15.00%
2.0 – 2.4	Very Good	74	74.00%
2.5 – 3.0	Good	11	11.00%
3.1 – 5.0	Failed	0	0.00%
Total		100	100%

Source: Authors.

As shown in Table 3, out of one hundred (100) respondents, fifty-eight (58%) percent got very good grades; fifteen (15%) percent obtained superior grades; and twenty-seven (27%) percent evaluated good grades in electronic navigation. This indicated that majority of the respondents their intelligent quotient was average in electronic navigation subject. In addition, no one failed in the subject because the respondents were already graduated and confirmed by the board of regents.

Table 4: Students' performance in Navigation based on ISF-TRB.

Grade (%)	*Description*	*Frequency*	*Percentage (%)*
75 – 100	Competent	93	93%
Below 75	Not competent	7	7%
Total		100	100%

Source: Authors.

Table 4 summarized the students' performance in navigation based on ISF-TRB**.** Out of one hundred (100) respondents, ninety-three (93%) percent them evaluated competent, while the seven (7%) percent not competent or failed of the competencies in navigation based on ISF-TRB. This implies that majority of the respondents learned the competencies and achieved higher performance in navigation based on ISF-TRB; thus, respondents with least learned competence should advice to undergo retraining using the full mission ship bridge simulator in maritime institutions or training center.

Table 5: Significant relationship between students' final grades and performance based on ISF- TRB.

Variables	*p-value*	*r-computed*	*Interpretation*
Students' final grades in terrestrial and electronic navigations 1 & 2.	0.008	0.264	*p>0.05 Not Significant*
Students' performance based on ISF-TRB.	0.032	0.214	*p>0.05 Not Significant*

Source: Authors.

Table 5 summarized the results of the test significance between students' final grades and performance based on ISF-TRB. The *p*-values were less than to the *0.05* level of significance. This would lead to the rejection of the null hypothesis that there was no significant relationship between the paired variables. Hence, it means that there was significant relationship between the paired variables looking at the computed values of *r*; it means that there was a small positive relationship between the paired values. Therefore, it implied that there was a small positive relationship between the final grades in terrestrial navigation and performance based on ISF-TRB, likewise, there was a small positive relationship between final grades in electronic navigation and performance based on ISF-TRB.

Conclusion.

Navigation courses should be aligned to the students' competencies based on the ISF-TRB standards so that students will become more globally competitive and efficient seafarers in the future.

Recommendations:

1. The incompetent students should focus on least learned competence and undergo enrichment exercises using full mission bridge simulator to improve their performance in navigation.
2. Massive monitoring of the students' ISF-TRB is important basis for an assessment evaluation whether the students obtained the competencies indicated in ISF-TRB.
3. The administrators and faculty in Maritime Higher Education Institutions (MHEIs) should formulate programs, activities and trainings that help the students to become competent seafarers.

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