

Electronics Technology as a Subject: Attitude and Performance among Marine Engineering Students

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Abstract - The purpose of this study is to determine the attitude towards and performance in Electronics Technology among Marine Engineering student at John B. Lacson Foundation Maritime University-Molo, Iloilo City. The data for this descriptive research was gathered through the use of twenty-item scale, "Electronics Technology Attitude Scale" and their grades in Electronics Technology subject. The participants of the study were grouped according to high school of origin, age, program, and high school scholastic achievement. To statistically analyze the data, the means and the standard deviations was employed as descriptive statistics, and the t-test for independent sample, one-way ANOVA, and Pearson's r as inferential statistics. The significance level was set at .05 level of significance for two-tailed tests. The results showed that, the marine engineering students had "moderately positive" attitude towards electronics technology and had "moderately low" performance in electronics technology. Significant differences existed

in the students' performance in electronics technology when grouped according to program and high school scholastic achievement. Finally, positive but significant correlation existed between the students' attitude towards and performance in electronics technology.

Keywords - Electronics technology, attitude, performance, marine engineering students

INTRODUCTION

Electronics technology is one of the subjects being offered and required among marine engineering students. It is a dynamic branch of science, which is being taught to provide questions and explanations on how the modern technologies work.

It has brought large changes in both the working world and society and these changes are hitting the electrical field directly, as it is electricity that all these technological wonders use for a power source. Electricity is used not only as a power source, but also as a basis of operations (Rosenberg, 1992).

Those changes and development that are happening on board, the computerization, the function of electronics and electricity in the generation of power and ship's operation are discussed and learned in the subject called electronics technology and students should become proficient in the types of installations, new technologies with new standards, and therefore, adapt to the new set of demands and standards of the industry.

It is in this regard, that, the Department of Science and Technology (DOST) emphasized that a well educated and trained work force, especially in science, engineering, and mathematics will determine a school's ability to survive and keep up with the new and stringent demands of the 21st century (Alimen, 1999).

In response to this challenge, maritime schools all over the country are tasked to meet the requirements of the Standards of Training, Certification, and Watchkeeping (STCW) 1995 to be able to continue operating (Pador, 1998)

The John B. Lacson Colleges Foundation (JBLCF), as a maritime school, meet this requirements. To equip the students with scientific knowledge and competence required for the practice of their profession, students are also equipped with a discipline-based curriculum, attitudes that are flexible to live and work with people of various nationalities, and commitment to serve God and society (JBLCF Students' Quality Manual, 1997).

Furthermore, Arcelo (1998) stresses that the official adoption of Quality maritime education through Unrelenting quest for Excellence for Sustained supply of global Technical manpower (QUEST) is to be achieved by the academe to commit to continuous search for excellence in education.

This study was based on the belief that marine engineering students must somehow develop the level of performance in electronics technology, as an essential and technical subject of marine engineering course. According to Taylor (1990) a marine engineer is still required to understand the working principles, construction, and operation of all machinery items in a ship.

Many students considered this subject as one of the sciences that seem to be very hard to learn. With this, the attitudes towards electronics technology was also considered. In fact, Lupdag (1998) states that the attitude or perception of a student reveals his level of learning toward a particular subject, thus, makes him enthusiastic to learn than those who have an unfavorable attitude towards it.

Furthermore, there were studies conducted in the attitudes and performance on Physics, Mathematics, and English but there was no empirical study made on the attitude and performance of marine engineering students towards electronic technology as a subject; thus, this study.

It was assumed in the present study that student related factors such as high school of origin, age, program, and high school scholastic achievement may affect the attitude and performance of marine engineering students taking electronic technology and its influence needs to be ascertained.

OBJECTIVES OF THE STUDY

This study aimed to determine the attitude towards and performance in electronics technology among marine engineering students at John B. Lacson Colleges-Foundation, Molo, Iloilo City.

Specifically the following were the objectives of the present study:

1. To determine the attitude towards electronics technology among marine engineering students at John B. Lacson Colleges Foundation-Molo, Inc., when taken as a whole and when grouped according to high school of origin, age, program, and high school scholastic achievement.
2. To determine the students' level of performance in electronics technology when they taken as a whole or grouped according to high school of origin, age, program, and high school scholastic achievement.
3. To ascertain the significant differences in the students' attitudes and performance towards electronics technology when they are grouped according to high school of origin, age, program, and high school scholastic achievement.
4. To determine the significant correlation between attitude and performance in electronics technology.

MATERIALS AND METHODS

This study employed the descriptive method of research. This approach is appropriate whenever the object of any class vary themselves and one is interested in knowing the extent to which different conditions were present among these objects (Good and Scates, 1972, in Alimen, 1999).

The independent variable in this study included the participants' students-related factors such as high school of origin, age, program, and high school scholastic achievement.

The dependent variable- in this study were the attitude towards and performance in Electronics Technology.

The participants of this study were the 226 randomly selected marine engineering students at the John B. Lacson Colleges Foundation (Molo), Inc., Iloilo City.

Permission to involve the marine engineering students of John B. Lacson Colleges Foundation, Molo, Inc. was secured from the dean of the college where students belong. As soon as permit to conduct the study is granted, the researcher distributed the instrument of the present study. Data gathered were submitted to appropriate statistical tools for interpretation and analysis. To determine the students' performance in electronics technology, the researcher asked permission from the college registrar to secure the student's averages in the said subject from their Form 138 and were subjected to appropriate statistical treatment for interpretation.

The data gathered for this study were interpreted by the following statistics: The statistical techniques and measurement scale used were mean, standard deviation, t-test, Analysis of Variance (ANOVA), and Pearson's r.

RESULTS AND DISCUSSION

The findings of the present study are as follows: The marine engineering students had a "moderately positive" attitude towards electronics technology. They were "moderately low performers" in electronics technology. The students did not differ significantly in their attitudes towards electronics technology when they were group according to high school of origin, age, program, and high school scholastic achievement. The students differed significantly in their performance in electronics technology when they were grouped according to program--in favor of special program and high school scholastic achievement--in favor of these with high scholastic achievement. No significant differences were noted in the students' performance in electronics technology when they were grouped according to high school of origin and age. A positive and significant correlation existed between the students' attitude towards and performance in electronics technology.

Results of the present study have led to certain implications for theory and practice in relation to the attitude and performance in electronics technology among marine engineering students at John B. Lacson Colleges Foundation-Molo, Iloilo City for school year 2001-2002 as influenced by certain related factors such as high school of origin, age, program, and high school scholastic achievement.

The finding which revealed that “moderate positive attitude” towards Electronics confirmed by the study conducted by Campbell (1972, in Alimen, 1999) that favorable outlook plays an important role in the learning ability of the individual because it determines the individuals with gusto to learn. In addition, teacher should be reminded that favorable climate coupled with a variety of instructional strategies produce quality performance. As observed, teachers who are well organized and considerate elicited more alert and enthusiastic participation for the students. The teachers who are more democratic and use less conventional procedure enable student to exhibit more imitative and creativity. Leonor's (2000) study entitled “ Maritime Career: Attitude and Perceived Benefits Among Midshipmen of John B. Lacson Colleges Foundation, Inc.”, confirms the result of this study that favorable attitude could develop and encourage students to perform satisfactory academic performance.

The results on positive and significant correlations existed between attitude towards and performance in Electronics Technology among marine engineering students are supported by the following studies, first by the study of Lucero (2001) that better performance significantly and positively correlated with peer relationship, time management, work commitment, and relation with superiors. Peer relations significantly and positively correlated with time management, peer relations, work commitment and relation with superiors. Time management significantly and positively correlated with work commitment, relation with superiors.

Catalan (2000) supports also this result by emphasizing in her study that it was only in the category of sex that no significant differences existed in the level of teachers' performance, teachers' performance is not related with their perceptions of the management style of their academic supervisors but is related with management performance.

CONCLUSIONS

In view of the foregoing findings, the following conclusions are drawn:

The marine engineering students in this research appear to appreciate electronics technology as a subject required for the program that they pursue. This explains that the students have an

aptitude for electronics technology which they felt they can make use of in their chosen field of endeavor.

In addition, the students seem to be obliged to learn and master the topics included in the electronics technology course, as this technology is vital to the maritime profession considering the impact of the technology in this information age. This is in line with the thrusts of government which promote information and communication technology.

The marine engineering students seem to project low performance in electronics technology. They seem to find difficulty in mastering the basic knowledge included in the in the subject. While they are still midshipmen they are supposed to learn and master the course such that they will be able to transform this knowledge into actual practice when they will be working onboard. Furthermore, the students fall short of their interest in learning electronics technology. They seem to find the subject difficult and not very interesting.

Regardless of whether the students graduated from a public or a private high school, their ages below or above 19, they belong to a special or rating program, are high, average, or low achiever, their attitude towards electronics technology remains the same. These classifications appear not to influence the students' attitude towards electronics technology.

Program and high school scholastic achievement are factors that influence the students performance in electronics technology. This explains that students enrolled in a special program and those with high high school achievement show a significantly better performance in electronics technology compared with those enrolled in the rating program and those with those with low and average performance during school. However, high school of origin, age do not influence the students performance in electronics technology.

The students' attitude towards electronics technology affect their performance in the said subject. This simply shows that if a person holds a good attitude towards an activity or undertaking chances are, they will also perform good in that activity or undertaking. Hence, the positive and significant relationship between students' attitude towards and performance in electronics technology.

RECOMMENDATIONS

Based on the findings and conclusions of the present study, the following recommendations are presented:

1. The members of the Guidance Committee of the John B. Lacson Colleges Foundation-Molo should design programs/seminars/symposia that could help students in developing positive attitude in all the subjects, more specifically in electronics technology. This will enable them to realize the importance of the subjects that they take, vital in the pursuit of their degree.
2. Faculty members assigned as advisers of marine engineering students should endeavor to take interest in helping them out develop a positive attitude towards their studies. This can be done through constant reminders during classroom meetings.
3. Technical instructors handling and teaching electronics technology should be deeply exposed and trained on the subject. This may enable them to identify the problems and acquire hands-on experience so that they are able to relate the scene to actual classroom experience and simulate the scene to actual on board activities.
4. To maintain and uphold the standards of the school, being one of the top schools in the country offering marine engineering program, delivery of instruction, method of learning, and strategies of relating knowledge should be evaluated and assessed regularly. This could be attained through team building seminars or sensitivity training taking into account their commitment and at the same time sharpening or retooling their technical know how through seminars, workshops, and trainings related to the subject that they teach.
5. Students enrolled in marine engineering courses should be provided with manuals, brochures, and pamphlets by the Office of the Student Services on "how to study well". In turn, the office of the student services should endeavor behavioral modification and development and other strategies that would facilitate academic performance among the students.

6. The school management should formulate policies to improve electronics technology instruction of the school. This could be achieved through proper identification of the strengths and weaknesses of electronics technology instruction—involvement of the faculty and students is recommended making the school policies more realistic and responsive.
7. Lastly, the researcher would like to recommend parallel investigations or studies to validate the results of the present study.

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