



## “Deck Watchkeeping Performance and Attitude of BSMT III Students Using Computer-Aided Instruction: Basis for the Development of Instructional Materials for Selected Topics”

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**Abstract :** This study was conducted to determine the performance and attitude of Bachelor of Science in Marine Transportation (BSMT) III Students Using Computer Aided Instruction. It served as the basis for the Development of Instructional Material for selected topics in Iloilo State College of Fisheries, Tiwi, Barotac Nuevo, Iloilo for the first semester of the academic year 2016-2017. BSMT III alpha was utilized as the respondents. Experimental-qualitative research design was employed in this study for a period of eight weeks of intervention. The data were gathered using test in Deck Watchkeeping, Attitude Inventory, interview guide and focus group discussion (FGD). Mean, standard deviation, Wilcoxon rank order and Spearman rank order were used to analyze the data gathered. The study revealed that the performance of Bachelor of Science in Marine Transportation (BSMT) III students before and after using Computer Aided Instruction was improved from “average” to “above average”. The results showed that there was a significant difference on the performance of the Bachelor of Science in Marine Transportation III students before and after using computer aided instruction. It was also found out that students have positive attitude towards Computer Aided Instruction (CAI). Furthermore, students’ performance in Deck Watchkeeping using Computer Aided Instruction was positively and highly correlated with their attitudes toward Computer Aided Instruction (CAI). It can be concluded therefore that the use of Computer Aided Instruction (CAI) contributed significantly to the improvement of students’ performance in Deck Watchkeeping. BSMT students’ expectations included more ideas, techniques, and concepts for their chosen career, to learn easier and faster, and to develop self-confidence in class discussion.

**IndexTerms - Deck Watchkeeping, Computer-Aided Instruction, Performance, Attitude**

### INTRODUCTION

In a classroom, a faculty traditionally assigns homework, do problems sessions, answer questions of students in the class or one-on-one and give quizzes and examination to get feedback from the students and thereby increasing the intensity of inter-activity in the learning environment.

Students begin to learn inside the classroom but there is need for future generations to compete with the growing trends of a technologically driven society that relies on computer to perform daily tasks.

Although traditional way of providing interactive learning environment may have been proven effective, students should learn computer skills and have to navigate computer to prepare them for more complex assignments.

How can we use computers to improve education effectively and inexpensively? The question never has been answered definitively and, even it had been, the answer would have been lived, outdated by rapid development in technology and in improving understanding of the nature of learner who use computer in the hope of better progress.

According to David Collins, et. al. (2008), computer aided instruction is a broad term that encompasses almost reliance in computers and networks in learning environment. It encompasses such terms as assisted instruction and computer-based learning.

Computer programs are interactive and can illustrate a concept through attractive animation, sound, and demonstration. These may allow students to progress at their own pace and work individually or problem solve in a group. Computers capture the students’ attention because the programs are interactive and engage the students’ spirit of competitiveness to increase their scores at the students’ pace and usually does not move ahead until they have mastered the skill (Sultan AlSultan, 2006). In a ship, the navigator is the manager of a combination of systems of varying complexity, which are used to direct the course of the ship and ensure her safety. The navigator as manager must be competent with the management of advanced technology. This is the reason why we should teach our students the management of advanced technology to prepare them and equip them with all the knowledge for their future work.

Shoemaker (2013) stated that many studies have linked technology use and student attitude at the college level.

Many researchers had been conducted to find out how learning takes place when technology is used to impact the attitude of students.

To best prepare today's future seafarers for the global and highly competitive job market in the 21st century, schools need to improve their instructional practices. The pressure to ensure that every student is proficient in and equip students with knowledge, understanding, proficiency, skills, and competencies to carry out watchkeeping duties in accordance with Section A-VIII/2, Part 4-1 of the Standards of Training, Certification and Watchkeeping (STCW) Code adds to the imperativeness of this endeavor. One possible answer is to incorporate technology which has been shown to be engaging and effective in increasing the depth of student learning. The challenge, however, is finding the most effective means of using technology to maximize student performance. For these reasons, the researcher was prompted to determine the influence of Computer Aided Instruction in the improving the performance of Bachelor of Science in Marine Transportation (BSMT) III students in Deck Watchkeeping.

## STATEMENT OF THE PROBLEM

The purpose of this study was to find out the performance of Bachelor of Science in Marine Transportation (BSMT) III students in Deck Watchkeeping and Attitude using Computer Aided Instruction.

Specifically, the study sought to answer the following questions:

1. What is the performance of students in selected topics in Deck Watchkeeping before using Computer Aided Instruction?
2. What is the performance of students in selected topics in Deck Watchkeeping after using Computer Aided Instruction?
3. What is the attitude of students using Computer Aided Instruction?
4. Is there a significant difference in the performance of students in selected topics in Deck Watchkeeping before and after using Computer Aided Instruction?
5. Is there a significant relationship between students' performance and Attitude in selected topics in Deck Watchkeeping using Computer Aided Instruction?
6. What are the experiences encountered by the Bachelor of Science in Marine Transportation Students using Computer Aided Instruction?

## RESEARCH METHODOLOGY

### Research Design

This study employed one group pre-test and post-test quantitative-qualitative research design. In the one-group pre-test and post-test design, a single group is measured or observed not only after being exposed to treatment but also before (Fraenkel & Wallen, 2003).

### Locale of the Study

This study was conducted in the College of Maritime Studies of Iloilo state College of Fisheries (ISCOF) Main Campus, Tiwi, Barotac Nuevo, Iloilo.

### Respondents of the Study

The respondents of the study were the Bachelor of Science of Marine Transportation (BSMT) III Alpha regular students taking Deck Watchkeeping subject for the first semester, school year 2016-2017. Irregulars are not included in the study.

### Sample Size

Forty (40) regular students taken from Bachelor of Science in Marine Transportation (BSMT) III Alpha were utilized as the respondents in this study.

### Sampling Technique

This study employed purposive sampling technique because only one section were utilized as the subject of the study by giving pre-test before and post-test after applying computer aided instruction.

### Research Instruments

The researcher developed a fifty (50)-item Test in selected topics in Deck Watchkeeping and adopted the Attitude Inventory from Computer Assisted Instruction versus traditional Instruction questionnaire by (Thomerson 2006). The draft were submitted to the dissertation adviser for critiquing, and then to a five-members jury who were experts in the field of Marine Transportation for test in Deck Watchkeeping and in the field of Psychology for Attitude Inventory for face and content validity. The experts in the field of marine transportation were trained as assessors who had undergone the Assessors Training Course (IMO 3.12). Suggestions of the experts were incorporated, and revision was made.

To establish the reliability, the instruments were pilot tested on a sample of thirty (30) third year students at the College of Maritime Studies of the Iloilo State College of Fisheries Main Campus taking Deck watchkeeping for the first semester 2016-2017 who were not included as the respondents of the study. The reliability coefficient of test in Deck watchkeeping computed using Kuder-Richardson Formula 20 was .704 and reliability coefficient of the Attitude Inventory was .915 using Cronbach Alpha. For research purposes, a useful rule of thumb is that reliability should be at least .70 or preferably (Fraenkel & Wallen, 2003).

The Test in selected topics in Deck watchkeeping which served as the pre-test and the post-test includes, Maintain a Safe Navigational Watch, Ships' Routeing, Shipboard Routine and Blind Pilotage Technique. A table of specification was prepared to make sure that the test items were representative samples of every content of the lesson.

The scores in the pre-test and post-test were summed up and the average score was computed.

The researcher made a traditional instruction in selected topics in Deck watchkeeping and pre-test was given after the instruction, while the traditional instruction is still conducted, the researcher develop an instructional material in selected topics in Deck Watchkeeping through Computer aided instruction using multimedia with full animation and videos presented and after the instruction in selected topics in Deck watchkeeping post-test was given to the respondents.

The following scale of means and their corresponding description was utilized to determine students' performance in deck watch keeping before and after using computer aided instruction:

Mean Score	Description	Interpretation
40.00– 50.00	Excellent	Full understanding and mastery of the concepts and skills
30.00– 39.99	Above Average	Adequate understanding and mastery of the concepts and skills
20.00– 29.99	Average	Moderate understanding and mastery of the concepts and skills
10.00– 19.99	Below Average	Limited understanding and mastery of the concepts and skills
0 – 9.99	Poor	Lack understanding and mastery of the concepts and skills

Another instruments used in this study was the Attitude Inventory to measure the attitude of Bachelor of Science in Marine Transportation, third year students using Computer Aided Instruction with seventeen (17) statements.

The following numerical weights were assigned to each of the responses:

Response	Weight
Strongly Disagree	1
Disagree	2
Agree	3
Strongly Agree	4

Negatively stated statements were scored in a reverse manner.

The responses to the items were summed up and the mean scores were computed. To describe the students' attitude using Computer-Aided Instruction, the researcher employed the following scale of means and their corresponding interpretations.

Mean Score	Description	Interpretation
2.50 – 4.00	Positive	students most likely enjoy using CAI in their class
1.00 – 2.49	Negative	student's dislike using CAI and look for ways to avoid it

### Data Gathering Procedure

Permission to conduct the study was obtained from the Office of the College President and Vice President for Academic Affairs and channeled thru the Dean of the College of Maritime Studies. When permission was granted, the researcher personally met the faculty concerned for the arrangement of the schedule of classes of the students and administration of the research instrument.

The syllabus in Deck Watchkeeping course was based on CMO 13, Series 2015 was utilized. It contains the outline of the topics, course description and intended learning outcomes.

The study was conducted for eight weeks. Starting eighteenth (18th) day of July to Ninth (9th) day of September, year 2016. Upon approval of the request letter, the researcher conducted orientation to the students as subjects of the study. Pre-test was administered after the orientation. The students were given one hour to answer the test. The test measures the performance in the following selected topics in Deck watchkeeping: Maintain a Safe Navigational Watch, Ships' Routeing, Shipboard Routine and Blind Pilotage Technique. Lessons were presented using technology like computer, laptop, multimedia projector and simulator. Discussions were presented in Microsoft PowerPoint with full animation, video and simulator. The researcher handled the class on the duration of the study.

When all the selected topics on deck watchkeeping have been covered using Computer Aided Instruction, the students were given post-test using the same test that was used in the pre-test.

The answered test and accomplished instruments were tallied, computer-processed, tabulated, analyzed and interpreted using appropriate statistics.

### Data Analysis Procedure

The data gathered in this study was subjected to some computer-processed statistical analysis via the Statistical Package for the Social Sciences (SPSS) Software:

Mean. The obtained mean scores from the pre-test and post test was utilized to describe the students' performance in deck watchkeeping before and after using Computer Aided Instruction.

Standard Deviation. The standard deviation was used to determine the dispersion of the scores from the means.

Wilcoxon Rank-Sum Test. for dependent samples was used to determine the significant difference in the students' performance before and after using Computer Aided Instruction.

Spearman's Rank Order Coefficient of Correlation. To determine the significance of relationship between the students' performance in Deck Watchkeeping and Attitude using Computer Aided Instruction, the Spearman's Rank Order was employed. The .05 alpha level was used as the criterion for the acceptance and rejection of the null hypothesis.

## RESULTS AND DISCUSSION

**Students' Performance in Deck Watchkeeping Before Using Computer Aided Instruction (CAI)**

Table 1 presents the performance of Bachelor of Science in Marine Transportation (BSMT) students before using the computer aided instruction. The result of the pre-test revealed that students have average performance in Deck Watchkeeping ( $M = 23.37$ ,  $SD = 4.31$ ). There were thirty (30) students who had average scores ( $M = 22.93$ ,  $SD = 1.93$ ), 6 students with above average ( $M = 33.75$ ,  $SD = 3.86$ ) and 4 students with below average ( $M = 18.67$ ,  $SD = .52$ ). Students have moderate understanding and mastery of the basic concepts and skills in selected topics in Deck watchkeeping.

**Table 1. Students' Performance in selected topics in Deck Watchkeeping Before Using Computer Aided Instruction (CAI).**

Scores	f	M	SD	Description
40.00-50.00	0	0	0	Excellent
30.00-39.99	4	33.75	3.86	Above Average
20.00-29.99	30	22.93	1.93	Average
10.00-19.99	6	18.67	.52	Below Average
0- 9.99	0	0	0	Poor
Entire Group	40	23.37	4.31	Average

**Students' Performance in selected topics in Deck Watchkeeping After Using Computer Aided Instruction (CAI)**

The performance of students in Deck watchkeeping after using Computer Aided Instruction is shown in Table 2. The result of the posttest revealed that students have above average performance in Deck Watchkeeping ( $M = 36.50$ ,  $SD = 5.26$ ). There were twenty two (2) students who had above average scores ( $M = 35.50$ ,  $SD = 2.74$ ), 13 students with excellent performance ( $M = 41.92$ ,  $SD = 1.71$ ) and 5 students with average ( $M = 26.80$ ,  $SD = 1.79$ ). Students have adequate understanding and mastery of the basic concepts and skills in selected topics in Deck watchkeeping.

**Table 2. Students' Performance in selected topics in Deck Watchkeeping After Using Computer Aided Instruction.**

Scores	f	M	SD	Description
40.00-50.00	13	41.92	1.71	Excellent
30.00-39.99	22	35.50	2.74	Above Average
20.00-29.99	5	26.80	1.79	Average
10.00-19.99	0	0	0	Below Average
0- 9.99	0	0	0	Poor
Entire Group	40	36.50	5.26	Above Average

**Students' Performance in selected topics in Deck Watchkeeping Before and After Using Computer Aided Instruction (CAI)**

The results of the study showed increase in the mean score of students as indicated in Table 3. The mean score in the pre-test was 23.37 with a standard deviation of 4.31 which means that the performance of students was average before using the computer aided instruction but after using Computer Aided Instruction (CAI), their performance improved to above average with a mean score of 36.50 in the post-test with a standard deviation of 5.26.

The result is consistent with the findings of Llasus (2013) in her study in determining the performance of Bachelor of Science in Agriculture students before and after using instructional technology in instruction indicated that there is a significant difference in the performance of students before and after the study.

**Table 3. Students' Performance in selected topics in Deck Watchkeeping Before and after Using Computer Aided Instruction (CAI)**

Scores	M	SD	Description
Before the study	23.37	4.31	Average
After the study	36.50	5.26	Above Average

**Students' Attitude Using Computer Aided Instruction (CAI)**

Students have positive attitude using Computer Aided Instruction ( $M = 3.10$ ,  $SD = .33$ ) as indicated in the results shown in Table 4. Generally, students most likely enjoy using Computer Aided Instruction in their Deck watchkeeping class. More than 50% of the students strongly agreed that they prefer Computer Aided Instruction over the traditional approach, retained information better, improved their performance, more motivated to learn and enjoyed using Computer Aided Instruction (CAI) in their class. In addition, most of them agreed that they found lesson using Computer Aided Instruction (CAI) easy to follow.

The result is consistent with the findings of Reyes (2012) that the experimental group had strong positive attitude Computer Aided Instruction (CAI) lessons in selected topics in Deck Watchkeeping.

**Table 4. Students' Attitude Using Computer Aided Instruction (CAI)**

ITEMS	SA	A	D	SD
I prefer CAI video lessons over the traditional presentation approach.	23	15	2	0
I found the CAI video lessons to be easy to follow and understand.	18	20	2	0
I found the traditional presentation format to be easy to follow and understand.	0	19	21	0
I prefer the traditional presentation approach of instruction over the CAI video lessons.	0	8	31	1
I retained information better when instruction was delivered via the traditional presentation approach.	0	13	27	0
I retained information better when instruction was delivered via the CAI video lesson approach.	25	15	0	0
I dislike the CAI video lesson approach.	0	3	31	6
I dislike the traditional presentation approach.	0	24	13	3
The use of CAI video lesson improved my performance in this course	29	19	1	0
The use of the traditional presentation approach improved my performance in this course.	0	14	26	0
I was more motivated to learn new material when using the CAI video lessons as opposed to the traditional presentation approach.	27	10	3	0
I was more motivated to learn new material when using the traditional presentation approach as opposed to the CAI video lessons.	0	11	29	0
The traditional presentations were boring.	4	25	11	0
The CAI video lessons were boring.	0	2	26	12
The classroom experience was more enjoyable on days when CAI video lessons were used as opposed to traditional presentations.	22	16	2	0
The classroom experience was more enjoyable on days when the traditional presentation approach was used as opposed to CAI video lessons.	0	10	30	0
I enjoy being a part of a new instructional approach such as the CAI video lessons.	25	13	2	0
Over-all Mean	3.10			
SD	.33			

Positive

## Inferential Data Analysis

### *Differences in Students' Performance Before and After Using Computer Aided Instruction (CAI)*

Wilcoxon Rank Order results revealed that there is highly significant difference in the performance of students before and after using computer aided instruction  $t(39) = -19.93, p = .00$ , as indicated in Table 5. There is a significant increase in the performance of students after using Computer Aided Instruction (CAI) in their class. The result implied that students performed better when Computer Aided Instruction is integrated in the presenting the lesson.

This confirms the findings of the study of Yusuf & Afolabi (2010) that the performance of students exposed to CAI either individually or cooperatively were better than their counterparts exposed to the conventional classroom instruction. The result also agrees with the findings of Kurucu and Gundus (2011) who found out that the academic achievement of the students who received computer assisted instruction practices were higher than those who received traditional instruction practices.

**Table 5. Wilcoxon Signed Rank test results in Students' Performance Before and After Using Computer Aided Instruction**

Category	Mean	df	Z-ratio	Sig.
Pretest	23.37	39	-5.51**	.00
Posttest	36.50			

\* p < .05 \*\*p<.001

#### **Correlations Between Students' Performance in selected topics in Deck watchkeeping after using Computer Aided Instruction (CAI) and Attitude Using Computer Aided Instruction (CAI)**

Spearman's Rank Order Coefficient Correlation results shown in Table 6 revealed that there is highly significant and positive relationship between students performance in Deck Watchkeeping after using Computer Aided Instruction (CAI) and their Attitude using Computer Aided Instruction (CAI),  $r = .71$ ,  $p = .00$ .

This finding is in agreement with Reyes (2012) who found out that there was a significant correlation in performance of students and Attitude using Computer Aided Instruction (CAI).

**Table 6. Spearman's Rank Order Correlation Results Between Students' Performance in selected topics in Deck watchkeeping after using Computer Aided Instruction and Attitude using Computer Aided Instruction (CAI)**

Category	Attitude	using CAI	Sig.
	N	r	
Students Performance in selected topics in Deck Watchkeeping After Using CAI	40	.64**	.00

\* p < .05 \*\*p<.001

#### **Qualitative Analyses**

##### **Expectations of the students on Computer Aided Instruction.**

An interview was undertaken by the researcher with fifteen (15) respondents in the College of Maritime Studies (COMS), Iloilo State College of Fisheries, Tiwi, Barotac Nuevo, Iloilo to find out whether their responses in the questionnaire- checklist are valid or not.

Moreover, Focus Group Discussion (FGD) was conducted among fifteen (15) respondents inside the classroom in the College of Maritime Studies (COMS), Iloilo State College of Fisheries (ISCOF), Tiwi, Barotac Nuevo, Iloilo. It is the researcher itself who conducted the Focus Group Discussion.

For the interview, the first question asked by the researcher is the background of the students about Computer Aided Instruction(CAI). Fifteen (15) students gave the following responses:

*Of course! For me, Computer Aided Instruction is with the use of computer. It consists of arts and designs that attract learners (S36).*

*Yes, I heard about Computer Aided Instruction as a broad term which covers devices such as computers, multimedia projectors, videos, etc. and most of all learning (S22).*

*Computer Aided instruction is not a common term for me, who came from far flung Barangay. I encountered only here in ISCOF specifically at the College of Maritime Studies from my professors who are using educational technology as their means of instruction. I was concluded that computer aided instruction that involves me and my learning process. (S24)*

*I finished my secondary education in a public school in our municipality. Even though our school is a public school, but also popular in terms of top achievers are produced. My parents send me at school where I am in, and Technologies being used in the*

*instruction is not new for me, because most of the times my teacher presenting his lessons in a power point. (S5).*

*Hmn yes. Computer aided instruction is a word to ponder on. Quiet high tech for those who had desk top or personal computer at home and much more high tech if you have laptop, notebook or tablet along with you in coming to school (S3).*

*Although some of my teachers are using blackboard and chalk during the instruction, but I heard already about educational technology such as computer aided instruction, and I have teachers that have also using power point in their classes (S5).*

*Yes of Course! It is the trend for today's generation.(S9, S11, S13, S14 and S17).*

*Computer Aided Instruction in Deck watchkeeping class is quite interesting especially in film showing and animations. Most especially during hands-on in full mission simulator, it's very exciting when we perform how to maneuver the ship in order to avoid collision with other ships passing in the area. It's just like a real scenario.(S26, S32, and S36).*

The ideas of the students interviewed on their background about computer aided instruction were confirmed in the focus group discussion when the subject said that:

*We agree that computer aided instruction attracts learners (S15). It also covers ideas, devices, people and most of all learning (S6, S14 and S28).*

S26 and S33 added that:

*With the introduction of our instructor, we can say that computer aided instruction as one of educational technology is an integrated process that involves as and our learning process.*

Another group said that:

*S5 was correct when he said his teacher in a public school was using power point during their classes (S9, 17 and S22) but (S3 and S9) said that traditional instruction is still in use of some teacher who are not literate in computers.*

*Desktop or personal computer, laptop, notebook and tablet are devices that can complement in the class instruction (S28 and S33).*

*Internet, facebook, tweeter, instagram and e-mail are the trends of today's generation (S22 and S26).*

For the second question, the researcher asked the students about their opinion of using computer aided instruction in deck watchkeeping class. The students answered the following:

*It is a great pleasure on our part in the sense that we were more interested to learn the subject and to listen attentively to the discussion (S5, S11, S13 and S28).*

*Well, It is less writing and no more dust of chalk... in the since I am allergic to that, I easily got affected like running nose and an itchy throat. For Over head projector (OHP) and slide projector, I don't really appreciate that kind of technology (S3).*

The students were asked what type of instruction with the aid of computer they prefer, and why?

*We preferred the PowerPoint. The topics can easily be understood since it is bulleted, highlighted, animated, with design, it can have sound effects and even videos (S5, S9 and S13).*

*Using of computer aided instruction in deck watchkeeping class like power point and film showing was a big thing that we like most. It is just like we are watch a movie because we have to sit properly only that it was interrupted when there were doubts and queries on the topics while the discussion was going on (S6, S22, S26 and S32).*

*Computer aided instruction in Deck Watchkeeping class was quite exciting especially in film showing, animations and simulations. How we like the way the instructor performed in simulator on how to maneuver the ship in order to avoid collision. Wow...! it's just like real. Hope we can perform that too (S3, 13 and S30).*

The opinions of the students about using computer aided instruction in deck watchkeeping class was confirmed in a focus group discussion. Their responses are as follows:

*Correct Sir, with the use of computer aided instruction in our class we are interested to learn and to listen attentively to the discussion of our instructor. (S5, S14 and S22).*

*Further, (S9, 17, and S36) added that, using computer aided instruction or technology integration in our class, there will be no dust of chalk that can trigger allergies and itchy throat. (S11, S22 and S28) suggest to use computer aided instruction for all classes and not the traditional instruction, since it is time consuming but (S13, 30 and 36) insisted that they also considered blackboard and chalk is also needed in the instruction in case of black out.*

The query about what type of instruction with the aid of computer the students preferred? This is supported by:

*If possible we will use the PowerPoint during classes so that topics are easily understood it is bulleted, highlighted and animated, it's so interesting (S14, S22 and S30).*

*Film showing and animations were really exciting (S3, and S24). Hands on in simulator was our Wish (S13 and S17).*

Finally, for the third question, the researcher asked the students about their expectations using computer aided instruction in deck watchkeeping class. The responses of the students were the following:

*I expect that during our class we will be able to perform/ hands-on activities just what we have seen on the screen(S30).*

*Computer aided instruction is a delicate process therefore our expectations were more ideas, concepts, experiences and techniques for us to learn and be able to apply them in our chosen profession, will be alert and active when it comes to technology and be allowed to use/ operate the computer, simulator during activities(S5, S26, S28 and S32).*

*Further, S11 and S36 said: what if the students does not know how to use computer? What will the instructor do to solve the problem?*

To be called in front and to answer the activity was

one of the comprehensions of the subject when asked in the

focus group discussion, which confirmed the idea of S11.

Moreover, the fear of S3 and S14 was confirmed by

S9 and S13 when they commented:

*We have fear because we have limited background and we are not expect in the use of computer but with your assistance "Sir", we can do it.*

*In Deck Watchkeeping, computer as one of the Technology is really very important on board ship. Because almost of the ships are already using computers and electronic equipments. That's why, I was expecting a beautiful presentation about the how to maintain a safe navigational watch ships' routeing (S5).*

*Since Deck Watchkeeping is a difficult subject, so many concerns about the IMO rules that we need to follow, we are hoping that through computer we could understand the subject matter easier and faster. We are also hoping that our instructor will give more examples especially in maneuvering of the ship and how to operate radar ( S3, S6, S9 and (S17).*

*Using computer in our subject is exciting, so we're expecting to have a full knowledge about educational technology, computer aided instruction and how they were presented to facilitate our learning process (S5, S14 and S17).*

The expectations of the students about using computer aided instruction in deck watchkeeping class were confirmed in a focus group discussion and these are as follows:

*S9, S13 and S22 said: we are expecting to perform more hands-on and activities.*

*Yes, we agree that using computer aided instruction is a delicate process. So therefore, we are expecting more ideas, techniques, and concepts and experiences to be applied in our chosen profession S5 and S26).*

*We are also expecting that someday or in the next lesson we are allowed to use or operate the computer and full mission bridge simulator especially during the activity in deck watchkeeping class (S11, S30 and S36).*

*Of course we are expecting beautiful presentations on safe navigation watch, ships' routeing, shipboard routine and blind pilotage technique (S17 and S22).*

The expectation of the Bachelor of Science in Marine Transportation (BSSMT) students in using computer aided instruction in selected topics in deck watchkeeping class revealed that some of the students were exposed to computer aided instruction since their secondary education, but there were some that they have just heard about educational technology and even some identified the traditional way of presenting the subject matter. And so by exposing them to certain educational technology they concluded that the teaching and learning process with the instructor guiding them, learning will be effective, easier and faster; class discussion will be inspiring, participative, better and improve their skills. They also revealed that having desktop or personal computer at home is something to ponder on because in connotes educational technology ("high tech"). Terminologies such as internet, facebook, tweeter and instagram are the password of today's generation. With computer, the life of the students will be enjoyable because it is a modern technology that covers devices, ideas, discoveries, concepts, techniques, experiences, people and most of all learning.

With these comments and revelations made by the students, the theory of Piaget on constructivism learning was considered; that humans generate knowledge and meaning from an interaction between their experiences and their ideas and it is through processes of accommodation and assimilation that individuals construct new knowledge from their experience.

Most of them, pointed out that their apprehensions could be: if they will be asked in the class and they don't know the answer, and that they will be disturbed by the noise of their classmates and sometimes noise from the surroundings such as there is a grass cutter operation and sound system during activities in the gym. In other words their concentrations were lost and most importantly they lack skills and knowledge in the use of computer but with the presence of the instructor these problem can be solved and lessen their fears. As supported by the constructivist theory, which state that the instructor acts as facilitator of learning that guides, support and create environment to steer learning experience (Wikipedia as cited by Masangya, 2013).

The comments and worries of the students of their apprehensions can be remedied and anchored upon Bruce and Weis's (2004) concept of traditional method of teaching. They describe traditional teaching strategy as one which is widely used and recommended for high consensus discipline. It reflects direct instruction. Direct instruction is structured teacher-centered approach that is characterized by the teacher directions and control, high expectation for students' progress. Maximum time spent by students on academic tasks, and efforts by the instructor to keep negative effect to the minimum. Ornstein said (cited by Acero et. al, 2000) in order to teach, one must be able to manage the students under him. No matter how much potential one has as teacher, if he is unable to control the students in his classroom, little learning will take place (Masangya, 2013).

Randash (2008) confirmed the view on the role of computer and technology in student education. Using computer in the classroom instruction can provide opportunities to improve student learning styles and will help perform task more easily. It can provide enjoyable educational experiences for both the student and the teacher. It can be used to enhance lectures and transform dull lessons into attention-grabbing motivating learning experiences. Color, animated graphics and sound can be used to capture and maintain student attention. Technology can create a perfect learning environment for every child and can assist teachers in creating more positive and motivating environment for students to learn and excel. Masangya, (2013) keeping students' interest is a real challenge and a wonderful regard to lecturer.

In the process of teaching and learning only few stated that they encountered problem. Their problem is in operating the computer. However, they overcome it with the help of their peers and with the supervision of the teacher. Taylor (2000) said, although many of us strongly believed in the great promise that technology holds for both learners and teachers, we also need to remember that, first and foremost, technology is a communication tool. "It is not the silver bullet that will solve all of our education problems". It is not about what technology by itself can do, but what teachers and learners may be able to accomplish using tools.

Finally, they revealed that the meaningful learning experiences they have include: developing and increasing their self confidence during reporting and classroom discussion; inculcating in their minds the value of readiness; realizing importance team

work, cooperation, unity and respect for the opinion of others during group activity and “learning from their own mistakes” as the factor for learning.

The learning activities encourage them to be participative in order to learn more. Furthermore, in order to participate well, they need to listen and pay attention attentively.

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