E-Learning Experiences of Maritime Students

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Abstract – *This study aims to assess the E-learning experiences of Maritime Students when it comes to geographical location, internet connectivity, gadgets utilized, economic status and health issues and test the significant difference when respondents are grouped according to profile. The study used descriptive type of research method and was utilized 292 maritime students. several statistical methods such as frequency distribution, weighted mean, and analysis of variance (ANOVA) were applied. To further examine the study's conclusions, all data was processed using PASW version statistical tools. Result revealed that the health issues and geographical location is the main factor that affects the e-learning experience of the maritime students. The result also revealed that geographical location has the most significant difference when grouped according to profile. Through this result, the researchers recommend having an alternative way to comply on the e-learning experience of the student.*

Keywords – e-learning, experience, maritime

INTRODUCTION

As a result of the demand for a transition to emergency online distance teaching, many educators, teachers, students, parents, and administrators had to rely on video conferencing technology for synchronous communication. This emergency response to physical distance becomes challenging because it is unprecedented and unanticipated.

E-learning is progressively turning into space where proficient learning of students happens. It has many platforms like zoom, MS teams and Google meet. Through those learning platforms the students were able to adopt in this new normal. Also, the students were able to learn despite of distance of the teacher and students. The schools are doing their best to give their students the best education that this time may give. The students can learn on the go with e-learning because it saves time. It blurs the lines between the classroom and the outside world. It makes it easy for the students to learn about the environment and develop their skills. However, with greater access to information, students' academic requirements can become more challenging.

Since face-to-face learning is scarce because of the Covid-19 epidemic, E-learning performs an important a part of providing students with the ability to learn across online learning platforms. This will help the students continue learning in this new normal. Some students experience difficulty in internet connection, that's why a suitable place with strong internet connectivity is a must. E-learning also gives students the grasp to use technologies mostly by the use of gadgets. Computer and cellphones are essential in e-learning because this is the main source of learning. Without these gadgets, students will not be able to learn that's why some of the students are unable to attend or enroll in online classes and the fundamental reason is that the income is not enough to buy these gadgets. Students with these high-end technologies are lucky because they are the one who had given the chance to learn even in this kind of situation. Focusing too much time in E-learning can also affect the health of the students. A limit in teaching hours is conducted to avoid eyesore and stress. Doing overtime classes and numerous activities should not be tolerated because this may affect the student's academic performance.

A well-designed online learning can be as good as face-to-face learning, the time required to plan, produce, and deploy high-quality online teaching and learning experiences was non-existent, necessitating emergency distance teaching. The move to emergency remote learning has widened the digital divide and made it more difficult to provide students with fair online learning possibilities, while also raising concerns about digital resource accessibility and student data and privacy [1]. As stated by Lawson, et. al [2] while there is a significant quantity of case studies discussing the experience of utilizing video

conferencing in education, there is very little research concentrating on the contextual elements that influence learning outcomes through video conferencing, and even fewer have examined the impact of different videoconferencing systems on online learning and teaching.

Technical concerns such frequent disconnections, poor sound and image quality, and time lag between voice and image were cited by students as stifling their learning. The quality of interactions and the overall learning experience are inextricably linked to the videoconferencing system's consistency [3].

E-learning had engaged students to undergo in complete online circumstances where things are being permitted by the current situation. Contrary to what students used to do in education, online platforms altered the perspective of the learners towards learning. Moreover, it cannot be neglected that there are various aspects that are being affected by e-learning. Indeed, e-learning has shifted the society of the learners that try to seize education despite the prevailing phenomenon these days.

Having observations similar to those mentioned in the studies above, the researchers conducted this study on the belief that this will help the students and universities to be more aware of the e-learning experiences of maritime students; thus, formulate programs that will guide the maritime students and universities on the possible things to do to have positive experiences in online classes. The researchers also conclude that the study's findings would help them progress and have a better online class experience. The Lyceum of International Maritime Academy (LIMA) as an institution will benefit to this study and may refer to the plan of actions of the researchers.

OBJECTIVES OF THE STUDY

The study determined the E-learning experiences of Maritime Students. Specifically, show the profile of respondents in terms of age, program, most commonly used internet connectivity, most commonly utilized gadgets; assess the E-learning experiences of Maritime Students when it comes to geographical location, internet connectivity, gadgets utilized, economic status and health issues; test the significant difference when respondents are grouped according to profile variables; and make a recommendation for a course of action based on the result of the study.

MATERIALS AND METHODS

Research Design

The descriptive analysis method was employed in this study to explain the characteristics of the phenomenon under investigation. As mentioned by Shields and Rangarjan [4], it does not answer the why, where, or how questions, but rather the "what" question. The researchers used the descriptive approach to assess maritime students at Lyceum International Maritime Academy's e-learning experiences.

Participants of the Study

The study has a total of 292 participants which consist of 102 respondents from BSMarE and 190 respondents from BSMT who are currently experiencing e-learning in LIMA. The data gathering is being conducted to cadets taken into this course through stratified random sampling.

Data Gathering Instruments

The data required in this study were obtained through a self-made questionnaire that was validated by an expert through reliability test. The Cronbach Alpha results are as follows; in geographical location it has the result of 0.773 (acceptable), in internet connectivity it has a result of 0.846 (good), in gadget utilized it has a result of 0.897 (good), in economic status it has a result of 0.808 (good) and in health issues it has a result of 0.832 (good). The first section of the questionnaire contains the respondent's demographic profile, which includes age, program, most commonly used internet access, and most commonly used gadget. While the second part of the questionnaire covers the e-learning experiences of maritime students when it comes to geographical location, internet connectivity, gadgets utilized, economic status and health issues.

Data Gathering Procedures

The questionnaires were virtually distributed to a number of maritime students in LIMA through google forms. Before responding, the respondents were given an explanation of the questionnaire's contents. Within a week, the completed questionnaires were collected, counted and tallied.

Data Analysis

To collect, encode, and evaluate the required data, several statistical methods such as frequency distribution, weighted mean, and analysis of variance (ANOVA) were applied. To further examine the study's conclusions, all data was processed using PASW version statistical tools.

Ethical Considerations

No specific names were listed in the report to respect the respondents' high level of confidentiality. The respondent's identities will not be revealed because they are LPU - Batangas students. The researchers will have no personal viewpoints, only facts and conclusions based on the information gathered.

RESULTS AND DISCUSSION

The first table presents the e-learning experiences of maritime students in terms of geographical location with a composite mean of 2.68 and with verbal interpretation of often. As seen from the result, most of the student's geographical location affects their e-learning experiences as a maritime student [2.90]. Most of them also experience weak signal due to strong wind and rain which affect their internet connection during class and exam (2.78).

Table 1
E-Learning Experiences as to Geographical Location

Indicators	WM	VI	Rank
1. My geographical location affects my e-learning experiences as a maritime student.	2.90	O	1
2. I experience moving from one place to another just to find a better signal.	2.56	O	4
3. I experience difficulty in exam because of the signal in my location.	2.64	O	3
4. I experience weak signals in my place due to strong winds and rain.	2.78	O	2
5. I experience power shortage because of inconsistent power supply in my place.	2.54	O	5
Composite Mean	**2.68**	O	

Legend: 3.50 – 4.00 = Always(A); 2.50 – 3.49 = Often(O); 1.50 – 2.49 = Sometimes(S); 1.00 – 1.49 = Never(N)

Based on the finding of Ramkumar et. al, [5] contemporary eLearning systems, remote students, as opposed to students present at the teacher's site, experience a distinct difference in terms of ease of communication with the teacher as well as students from other areas. According to the study of Bhuiyan, et.al [6] there is also a split in the use of the Internet based on geographic location. The majority of issues encountered by operators when establishing internet access networks in rural locations. Internet users in rural locations complain about inadequate coverage and quality of service (QoS) when using wireless internet access. As stated by Adnan and Anwar [7] in underdeveloped nations like Pakistan, where the vast majority of students are unable to use the internet due to technological and budgetary hurdles, online learning will not produce the intended results. Students noted a lack of contact with the teacher, response time, and regular classroom socializing in addition to technical and economic issues.

On the other hand, some students experience power shortage because of inconsistent power supply This mean that inconsistent internet connection and power supply also affect the students' online class. According to the study of Roberts and Townsend [8] on the other side, limited access to online services could put rural creative firms and organizations at danger. Creatives have identified numerous hurdles to working activities as a result of limited or inaccessible broadband Internet access. Students recognized power shortages as an additional barrier to remote learning. Power interruptions during online classes are an inherent hazard in virtual classrooms. Some of the students polled live in areas where power shortages have been a problem since before the outbreak. Academic continuity, on the other hand, can be an issue in the event of less dramatic events such as power failures, severe weather, or the temporary absence of a teacher, especially if the problem occurs repeatedly [9].

Table 2
E-Learning Experiences in terms of Internet Connectivity

Indicators	WM	VI	Rank
1. I am experiencing slow internet connection during class hours.	2.74	O	1
2. I cannot take major exams and quizzes due to slow internet connection.	2.43	S	3
3. I cannot attend synchronous classes because of slow internet connection.	2.41	S	4
4. I cannot submit assignments and activities on time because of slow internet connection.	2.35	S	5
5. I am having a hard time in downloading the lectures in the LMS because of my internet connection.	2.51	O	2
Composite Mean	**2.49**	**S**	

Legend: 3.50 – 4.00 = Always(A); 2.50 – 3.49 = Often(O); 1.50 – 2.49 = Sometimes(S); 1.00 – 1.49 = Never(N)

Table 2 presents the e-learning experiences of maritime students in terms of internet connectivity. It

revealed that experiencing poor internet connection give them a hard time to attend synchronous class, downloading the lectures and taking major exam. It was supported by the study According to Azcarraga and Peña [10], that in the Philippines, internet connection is still a problem. Despite the government's intensified efforts to promote connection, current Internet and mobile penetration rates are well below the target levels, owing to institutional rigidities. Despite the fact that distance learning was widespread long before the internet, technological improvements have made ICT a more vital tool for various sorts of learning. As a result, a large number of computer-based learning environments have emerged.

In the study of Emeka and Nyeche [11], the internet has evolved into a worldwide entity that is difficult to comprehend. To many people, the internet is a massive computer network that connects millions of smaller computers all over the world that belong to tens of thousands of businesses, government agencies, academic institutions, educational institutions, and other organizations. The internet is a worldwide community with a thriving online community. The opportunities and challenges associated with accessing the Internet by students have risen to the forefront of discussion as a result of the rapid development in understanding and use of this technology.

Table 3
E-Learning Experiences in terms of Gadget Utilized

Indicators	WM	VI	Rank
1. I cannot comply with the e-learning requirements because I don't have any gadget.	2.14	S	5
2. I cannot attend synchronous classes due to lack of having quality gadget.	2.25	S	4
3. I experience difficulty in performing laboratory exercises due to gadget errors.	2.49	S	2
4. I experience lag or delay while using my gadget.	2.62	O	1
5. I experience unsaved document due to technical and gadget errors.	2.47	S	3
Composite Mean	**2.39**	**S**	

Legend: 3.50 – 4.00 = Always(A); 2.50 – 3.49 = Often(O); 1.50 – 2.49 = Sometimes(S); 1.00 – 1.49 = Never(N)

Table 3 shows the e-learning experiences of maritime students in terms of gadgets utilized. Results shows that most of students are experiencing technical difficulties on their gadget during online class. This means that even their gadget is giving them hard time

on their online class. This could also be mean that not all students are having or using latest gadget to just to comply with the online class. But what the worst is some students don't have gadget to comply their e-learning experience.

E-learning relies on technology, such as the internet and computers, that many students lack, and disruptions or other system malfunctions may occur during sessions [12]. The shortage of professionals who are technically strong on fixes during fault incidence, operational challenges, expensive data subscription costs from service providers, and fragility are the key concerns that arise when utilizing cellphones [13].

Likewise, Suzana, et. al [14] stated that this pandemic where all classes are in online platforms the lack of gadget devices, parental awareness of gadget functions, and budgetary limits to meet the needs are the utmost hurdle that parents and students are facing.

Table 4 presents the E-learning Experiences of Maritime Students in terms of Economic Status Results show that most the students often experience on too many expenses to have data subscription to attend online classes. Other students said that they need to borrow gadgets just to attend online class financial burden due to excessive handouts to print Meanwhile, other students are experiencing that they cannot comply with the activities in e-learning because they don't have enough financial resources to afford it and sadly other students' absence their online class because they don't have enough money to buy load to have internet connection. This result is a manifestation that because of these pandemics, most of the students affected the financial status of their families.

Maritime students were financially reliant on their parents to pursue their education. Following the COVID-19 pandemic, the internet has evolved into a mitigating mechanism for saving education from the worst effects of worldwide lockdown and termination [15]. Poor connectivity can compound other disadvantages of online learning. The situation is not suitable to applying the modern style of learning distribution without a home internet subscription [16].

Table 4 presents the E- learning experience of maritime students in terms of health issues. It revealed that most of the students are missing the usual physical activity due to being stationary for hours in front of the gadget (2.78) where other students are also experienced sleeping irregularly due to overtime and numerous activities (2.76) and headache and eyesore due to increased screen time in online learning (2.72). This result showed that the student's health is affected by

their e-learning experience. They do not have time to do physical activities and they also suffered from physical pain and sleep deprivation because of sitting in front of their gadget/computes for the whole day just to accomplish their school activities. According to the study of Fawaz [17], during quarantine, social isolation, sleep deprivation and decreased exercise may worsen procrastination and feelings of worthlessness. Many people find it difficult to participate in back-and-forth dialogue because the screen produces an overwhelming sense of loneliness.

Table 4
E-Learning Experiences in terms of Economic Status

	Indicators	WM	VI	Rank
1.	I experience absence in online class because I do not have enough money to buy load.	2.25	S	5
2.	It requires too many expenses to have data subscription to attend online classes.	2.53	O	1
3.	I experience financial burden due to excessive handouts to print.	2.35	S	3
4.	I cannot comply with the activities in e-learning because I do not have enough financial resources to afford it.	2.30	S	4
5.	I experience borrowing other's gadgets just to attend my online class.	2.40	S	2
	Composite Mean	**2.37**	**S**	

Legend: 3.50 – 4.00 = Always(A); 2.50 – 3.49 = Often(O); 1.50 – 2.49 = Sometimes(S); 1.00 – 1.49 = Never(N)

Table 5 presents the E-Learning Experiences in terms of Health Issues which reveals that students often experience these issues related to health issues.

Whereas other students experience stress and anxiety during online learning [2.71] and having difficulty in understanding the lesson because of backpain [2.64]. This mean that because of strict implementation of no to face to face class to limit the spread virus, the internet becomes the solution to support the distance between the teachers and students. This distance affects the social interaction that can cause stress and anxiety to the students. The outbreak of coronavirus disease 19 (COVID-19) has been declared a Public Health Emergency of International Concern and a global pandemic by the World Health Organization (WHO). In addition to the risk of infection, the sickness has caused immense psychological distress to people all over the world [18].

Table 6 presents the significant difference on THE responses on the e-learning experiences of maritime students when grouped according to profile

Table 5
E-Learning Experiences in terms of Health Issues

	Indicators	WM	VI	Rank
1.	I experience headache and eyesore due to increased screen time in online learning.	2.72	O	3
2.	I experience sleeping irregularly due to overtime and numerous activities.	2.76	O	2
3.	I am missing the usual physical activity that I do due to being stationary for hours in front of the gadget.	2.78	O	1
4.	I experience stress and anxiety during online learning.	2.71	O	4
5.	I am having difficulty in understanding the lesson because of backpain.	2.64	O	5
	Composite Mean	**2.72**	**O**	

Legend: 3.50 – 4.00 = Always(A); 2.50 – 3.49 = Often(O); 1.50 – 2.49 = Sometimes(S); 1.00 – 1.49 = Never(N)

. It was observed that there was a significant difference on geographical location when grouped according to age and program since the obtained p-value of 0.004 and 0.044 was less than the alpha level of 0.05. This means that there was a signifcant difference observed and based from the post hoc test conducted, BSMT students and students from 19 – 21 years old have greater assessment on geographical location.

According to Cristobal-Fransi, et. al [20] in general, and particularly in South Africa, rural areas lack the social and economic stability essential to support technical growth. As stated by Hall and Wright [21], in rural areas of South Africa, there were 11252 schools, with 3060 secondary schools and 8 192 elementary schools.

It was also observed that there was a significant difference geographical location, internet connectivity, gadget utilized and economic status when grouped according to internet connectivity since the obtained p-value of 0.010 and 0.000 was less than the alpha level of 0.05. This means that there was a signifcant difference observed and based from the test conducted, students who uses mobile data have greater assessment on geographical location, internet connectivity, gadget utilized and economic status.

According to Budiman [21], higher education institutions in Indonesia implemented internet data assistance programs as one of their options to aid students with online study from home during the Covid-19 pandemic. In order to provide focused help, information on students' mobile data usage is required. This policy is believed to be less fair and unequally dispersed among beneficiaries (students).

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Table 6
Difference of Responses on E-learning Experiences of Maritime Students When Grouped According to Profile

Age	F-value	p-value	Interpretation
Geographical Location	4.613	0.004	Significant
Internet Connectivity	1.113	0.344	Not Significant
Gadget Utilized	0.833	0.477	Not Significant
Economic Status	1.437	0.232	Not Significant
Health Issues	1.833	0.141	Not Significant
Program			
Geographical Location	2.019	0.044	Significant
Internet Connectivity	0.777	0.438	Not Significant
Gadget Utilized	0.641	0.522	Not Significant
Economic Status	1.636	0.103	Not Significant
Health Issues	1.271	0.205	Not Significant
Internet Connectivity			
Geographical Location	2.605	0.010	Significant
Internet Connectivity	5.692	0.000	Significant
Gadget Utilized	5.009	0.000	Significant
Economic Status	4.660	0.000	Significant
Health Issues	0.580	0.562	Not Significant
Gadget Utilized			
Geographical Location	8.021	0.000	Significant
Internet Connectivity	4.384	0.013	Significant
Gadget Utilized	2.811	0.062	Not Significant
Economic Status	1.571	0.210	Not Significant
Health Issues	0.322	0.725	Not Significant

Legend: Significant at p-value < 0.05

Some information is necessary, such as the amount of time spent on the internet, the number of classes and meeting durations, as well as the students' financial capacities. As stated by Hasan and Khan [6], the information and communication technology (ICT) revolution has posed new difficulties to education institutions around the world. Because of its accessibility, this approach of ICT-based education has grown quite popular all over the world. A smart phone is an essential component of any modern communication system in today's world. Because of the advantages of internet service, particularly mobile internet service such as 3G and 4G, everyone has access to the world's information.

Lastly, it was observed that there was a significant difference geographical location and internet connectivity when grouped according to gadget used since the obtained p-value of 0.000 and 0.013 was less than the alpha level of 0.05. This means

that there was a signifcant difference observed and based from the post hoc test conducted, students who uses mobile have greater assessment on geographical location and internet connectivity. Learners can cultivate strategies to learn on an online environment using mobile devices. Mobile learning (m-learning) has become a widespread learning system for education, especially higher education, all over the world due to its multi-functionality and efficacy [22].

Mobile phones are increasingly being used as a persuasive learning platform for improving distance education teaching and learning. Its use enables learners' access to online learning channels, course resources, and digital interaction, as well as flexible course delivery [23]. Smartphones have emerged as a result of the internet, allowing learning to take place independent of geographical location or time period. Smartphones are helping to realize the purpose of distant education, which is to make courses available to students at all times as claimed by Tuncay [24].

Table 7
Proposed Action Plan to Improve the Experiences of Maritime Students to Online Learning

Key Results Area	Activities/Strategies	Persons Involved
A. Health Issues		
To develop a healthier study habit of maritime students in online learning.	• Conduct a webinar that will inform students on how to manage their time properly.	• Professors • Students • School Clinic
To improve the knowledge of maritime students about their health.	• Conduct a conference that will inform students on how to properly take care of their health while dealing with online classes.	• Professors • Students • School Clinic
To set a positive vibe to maritime students.	• Conduct a simple game before the start of synchronous classes.	• Professors • Students
B. Geographical Location To boost maritime student's interest in online learning despite of problems in their location.	• The professor could share an inspirational story about his/her career that could elevate the interest and affection of a maritime student amidst the conflict.	• Professors • Students
To give professional advices to maritime students on how to maintain signals during online classes.	• Provide an information on how to deal with signals in their location.	• Deans • LIMA Student Organizations • Professors • Students
To offer the students flexible time in taking academic requirements.	• Grant the maritime students to take their academic requirements in long period of time.	• Deans • Professors • Students
C. Internet Connectivity To give chances to maritime students that were not able to submit any academic requirements on time.	• Formulate a new forum/submission for those students that were not able to submit on time because of their internet connectivity.	• Professors • Students
To improve the internet connection of maritime students.	• Advise the maritime students to try different networks that give the best internet connection.	• LIMA Student Organizations • MIS • Professors • Students
To reassure the students are able to understand the lessons despite of slow internet connection.	• Create extended online platforms where they can download lessons/lectures even they are having problems with their internet connection.	• MIS • Professors • Students

CONCLUSION AND RECOMMENDATION

Based on the result, maritime of students revealed that their health issue is the most affected in their e-learning experience which some of them suffer from physical and emotional pain. They also express that their geographical location affected their e-learning experience because of poor/slow internet connection in their area. It recommends that the institution may provide material like anti-radiation eyeglasses to protect the eyes of the students. The faculty may permit early access of lectures in order for the maritime students to follow the lessons despite of their conflicts in geographical location. The plan of

action may be evaluated and implemented for the improvement of rules and regulations of the schools.

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