
RESEARCH ARTICLE

The Impact of Synchronous Learning of Marlins in Teaching Maritime English

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ABSTRACT

Educators use online learning in the teaching process during the COVID-19 epidemic. Basic interactive online learning methods, such as synchronous learning, are available as a face-to-face learning process via online media. It is necessary to have learning media that can be used during learning Maritime English. The kind of platform that will be used in this study namely Marlins. This study aimed to investigate the impact of synchronous learning in teaching Maritime English through marlins English in cadets' learning outcomes in the industrial revolution 4.0. This study was a quantitative study using a pre-experimental One-Group Pretest-Posttest Design. Collecting data applied Marlins English with reliability of 0.788 in Alpha Cronbach. The number of samples was 24 cadets. Multiple choice items and descriptions made up the data gathering instrument. A one-sample t-test, a percentage test, and an independent sample t-test were employed to analyze the data. The results of the study show that there is a mean score of 1,250, and the data table of Paired Samples Test Shows Sig. value of (2- tailed) (0.001) < (0.05) and value of t count of (-4.440) > t table (23; 0.05) is 1.713, so that Ho is rejected. From 24 cadets of the Engine Department of class 3A at Polytechnics of Makassar Merchant, before and after the treatment is significant. For further researchers, it is expected that they can carry out further research with more in-depth coverage related to online learning through synchronous learning.

KEYWORDS

ESP, Industrial Revolution 4.0, Marlins English, Synchronous Learning

ARTICLE INFORMATION

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1. Introduction

The education system cannot be separated from the development and progress of the times; this means that education must adapt and harmonize with the demands and needs of the times so that a process of improvement and quality improvement in education is needed. The education system is a strategy or method that will be used to carry out the teaching and learning process to achieve the goal that these students can actively develop the potential in him that is needed for themselves and society. Every system must have a purpose, and all activities of all components or parts are directed to achieve these goals.

The occurrence of Fourth Industrial Revolution has had a major influence on the world of education, especially the learning system, because it involves technology in it by combining the world of technology with the world of fundamental education will certainly change the pattern of life and human interaction. Industry 4.0 describes the growing trend towards automation and data exchange in technology and processes in the manufacturing industry. These trends include the Internet of Things (IoT), the Industrial Internet of Things (IIoT), cyber physical systems (CPS), artificial intelligence (AI), smart factories, cloud computing systems, and so on. Even in the Industrial Internet of Things design, this industrial level creates a manufacturing system where the machines in the factory are equipped with wireless connectivity and sensors to monitor and visualize the entire production process. Even autonomous decision-making can also be done directly by these machines.

The Industrial Revolution 4.0 has changed the face of education by demanding lecturers to be able to produce students who are able to answer the challenges of the Industrial Revolution 4.0 and require students to stay afloat in the flow of development. In

this context, learning no longer makes lecturers the main subject, but student participants who become the main subject and as an effort to face global competition as a result of the Industrial Revolution 4.0, namely forming an independent nation and superior Human Resources (HR) with concepts and applications mature (Wahyudi, 2018). Learning is an important process in the world of education because there is a growth process in it. To grow, it takes an active role from students and teachers in the learning process (Sujarwo et al., 2020).

Student involvement cannot be separated from the teacher, who needs to design learning so that an effective process occurs to achieve learning objectives. Garvin in (Cunningham 2019) explains that teachers guide students in their roles and responsibilities through managing balanced interactions with students by involving students and guiding the process of achieving meaningful learning outcomes together with learning so that they are able to achieve learning goals. Student involvement is important in online learning as evidence that students are trying to develop their cognitive and knowledge abilities (Martin & Bolliger, 2018).

Educational goals will be achieved in the form of changes in student behavior through the learning process so that learning becomes the most important element in achieving educational goals; thus, the strategy applied by a teacher or lecturer will have a major influence on the level of behavior of students or learners.

After the emergence of the Covid-19 outbreak in the hemisphere, the education system began to look for innovation in the process of teaching and learning activities. Moreover, Circular no. 4 of 2020 from the Minister of Education and Culture recommends that all activities in educational institutions must keep a distance and that all material delivery will be delivered at their respective homes. A number of strategies were taken by the Ministry of Education and Culture to optimize the course of education during the COVID-19 pandemic with the aim of saving the education sector from the threat of the COVID-19 pandemic. Because of the COVID-19 epidemic, the globe is at a critical, uncertain, and unexpected stage of tragedy and destruction (Sarkar, 2020; Sujarwo et al., 2020). All elements of life, including education, are being significantly impacted. Millions of cadets' education have been altered as a result of the current COVID-19 outbreak (Fulsawange et al., 2020). The educational system is undergoing a transformation. Digital technology is bringing about radical changes in the world of education. Teaching does not have to be done in classrooms with desks, tables, and blackboards; it may be done in people's rooms, millions of kilometers away, behind their personal computers (Lotfi & Pozveh, 2019). Suddenly, new modes of learning, such as virtual and online learning, have emerged. Because of unforeseen conditions during the COVID-19 epidemic, traditional forms of face-to-face learning were replaced.

The education process, which previously used face-to-face techniques, now has an emergency due to the non-natural COVID-19 disaster, which has shifted the teaching and learning process to ONLINE (on the network). Of course, this is a new problem, where the customs and culture that have been carried out so far have to be slightly bent to be online. The implementation of virtual schools, starting from elementary, junior high, and high school to university, is also forced to carry out the educational process by virtual means. The implementation of this virtual school is the best way to continuity of the education process because education is the pillar of civilization. The progress of the country depends on the progress of education.

The government's policy product a very influential impact on the economic, social, educational, and other fields. Distance learning makes it possible to conduct learning remotely without being tied to distance, wherever and whenever you can access the learning with a synchronous approach; the synchronous approach is an interaction oriented to learning and facilitated by direct, real-time, and usually scheduled instructions. Distance learning is divided into two approaches, namely synchronous and asynchronous approaches, both of which have their respective differences in the distance learning process. Synchronous which focuses on two-way learning at the same time, while asynchronous one-way learning without concurrent time only provides materials and materials to be studied.

To complement the learning activities, distance learning media is designed with a synchronous approach based on virtual class technology that uses virtual computer and internet technology which can be called Virtual class. The virtual class is defined as a learning method that includes the presentation of material, graphics, simulations, evaluations, and feedback presented in the form of interactive multimedia learning that uses electronic media (internet connected) to deliver material and virtual class-based guidance. The shift in learning techniques from face-to-face to online engagement necessitates adaptation on the part of English instructors. They must identify any suitable teaching approaches that are compatible with the online learning style (Rinekso et al., 2020).

Hence, to deliver material, especially in teaching ESP for cadets. So that Hutchinson and Waters (1994) say that studying English for specific purposes (ESP) is a way of learning English in which the topics covered and the style of instruction are dependent on the reasons why the student wants to learn English. To summarize, ESP, or English for Special Purposes, is a method of teaching and utilizing English for certain fields and studies that are tailored to the needs of the fields of study and professions that employ English. (BCSH Blood Transfusion Task Force et al., 1994). The goal of ESP is for students to be able to speak English fluently in

their subject of study. For example, chemistry students must grasp English for chemistry, engineering students must understand English for engineering, and those working in hospitality must learn hospitality English. If they are maritime students, they must be able to communicate in marine English (Limbong, 2021).

Based on the results of observations and preliminary interviews that researchers conducted in February 2022 for all cadets of Polytechnics of Makassar Merchant Marine, it was found that the use of media and technology was not optimal during the distance learning process in the midst of the COVID-19 pandemic. Lecturers are only limited to giving assignments through chat applications (Whatsapp Groups) and E-Learning without clarifying the material given to cadets, making cadets feel bored quickly in learning activities. Lack of student learning interest due to learning methods and the delivery of lecturers who are less than optimal, even if the lecturers make cadets assignments difficult to do because the lecturer only explains the improvised material without any further explanation through the video application conference.

Seeing the phenomenon above, it is necessary to have learning media that can be used during the learning ESP (Maritime English) process. The kind of platform that will be used in this study namely Marlins. Marlins is an online learning platform for seafarers that is not just in English language learning but also includes other maritime-related resources such as E-learning solutions for the shipping, cruise, yacht, and offshore industries (Limbong, 2018, and 2020). Additionally, it includes examinations used to assess the competence of seafarers who are willing to work aboard ships. Marlins offers a variety of tools for crew assessment and training in addition to English testing options for seafarers. These materials are used by significant employers in the ship management, marine leisure, and offshore sectors for recruitment and training purposes, and they are applied globally. One of the learning products offered by Marlins is Marlins English for seafarers. This product contains maritime English that will be used on ship particular effective communication. As previously stated, the IMO STCW Convention, SOLAS, ISM Code, and other international regulations all need excellent communication to protect the safety of crews and vessels.

Marlins' new flagship curriculum relies on our years of experience as the world's leading provider of Maritime English assessment and instruction. The course also meets the requirements for Maritime Engineers under IMO Model Course 3.17, Maritime English (General Maritime English), and is appropriate for seafarers at the elementary and intermediate language levels. This unique new training intends to improve sailors' Maritime English skills, with an emphasis on the communication needs of the deck, marine engineer officers, and crew. Seafarers will strengthen their English language and communication abilities in multi-national crews, during inspections, and in ship/shore communications by taking this course. The course, which takes place on the "MV Marlin," is divided into five modules, each with a different marine theme, and combines grammar, maritime vocabulary, SMCP, and pronunciation into a full self-study program.

There are some previous studies that have been conducted by other researchers that stated that the author's strategy for increasing student engagement is to combine synchronous learning activities with approaches to early childhood development. As a result, cadets can participate actively in synchronous learning by participating in activities that assist components of their development, which are the emphasis of early childhood education (Christanty et al., 2021). Teachers need to have technical competencies in the fair stage, according to the current study, and they must enhance their competencies in order to run a synchronous learning environment rather than a traditional one. By considering all of the analyzed data using a thematic and descriptive approach, the efficacy of OSC can be observed at a satisfactory level when proper technologies are used (Pathirana, 2021). The results revealed that the cadets responded positively to the use of synchronous online debate. They thought that synchronous online conversation was a useful online teaching style since it allowed for easy task negotiation, task planning, viewpoints, and questions and answers. They could also develop their critical thinking and writing skills, as well as receive social assistance (Rinekso et al. 2020).

Based on the description above, it appears that the impact of synchronous learning in teaching Maritime English through marlins English in cadets' learning outcomes in the industrial revolution 4.0 has never been examined, yet it is necessary because cadets require it at Polytechnics of Makassar Merchant Marine.

2. Method

This is a quantitative study that uses a one-group pretest-posttest design as a pre-experimental strategy. Pre-experimental studies that conduct the test before and after treatment in one group are known as one-group pretest-posttest designs (Sugiyono, 2010; Leavy, P. 2017). The main goal of an experimental design, on the other hand, is to determine the impact of a therapy (or an intervention) on a certain result while controlling for any other factors that may influence that outcome. Experimental research is an action and observation carried out to check hypotheses or identify causal relationships between symptoms. In this experimental study, the causes of all symptoms will be tested to determine the cause or the independent variable that will affect the effect or the dependent variable. Researchers allocate individuals to groups at random as a type of control. When one group receives

therapy, and the other does not, the experimenter can determine if the treatment is the only factor affecting the outcome (Creswell, 2017).

Experimented treatment in this study was using synchronous learning in Maritime English materials through marlins English which was designed in seven meetings with seven guidance topics, namely: (1) what’s happening on Board? (2) Verb describes work activities and routines - Simple Present and Present Continuous, (3) Supplies” - Type of cargo and container vocabulary - Countable and uncountable - Checking food supplies - Quantities and weights - Calculating prices ", (4) A New Vessel” - Adjectives that describe vessel specifications - Comparatives - Comparing and contrasting sizes, speeds, age. (5) Have You Checked the Machine?” (6) Task Completion - Maintenance duties - Components of the vessel. (7) Where are the life jackets? Meanwhile, to measure the cadets' understanding of ESP materials before and after getting treatment, a Synchronous learning Questionnaire containing 30 items was used.

The research subjects were 24 cadets of the Engine Department of class 3A at Polytechnics of Makassar Merchant. Before analyzing the data. The descriptive analysis method was used, with the mean value and categorization based on the normal distribution model of the SPSS 28 version. The effectiveness was assessed utilizing the t-test analysis technique's paired sample test.

3. Results and Discussions

The research data gathered using synchronous learning in teaching Maritime English through marlins English in cadets’ learning outcomes in the industrial revolution 4.0 Questionnaire before and after treatment showed the responsibility description of 24 cadets of Engine Department of class 3A at Polytechnics of Makassar Merchant.

From the scores obtained by cadets, category intervals were made based on the maximum and minimum scores based in table 1.1 as follows:

No	Category	Score
1	Very High	81-100
2	High	61-80
3	Moderate	41-60
4	Less	21-40
5	Very Less	0-20

(Modification from Arikunto, 2009:245)

Table 1.2. The Score of Cadets’ Learning Outcomes Before and After Research in the pre-Experimental Class when using synchronous learning in teaching Maritime English through marlins English

Pre Experimental Class				
No	Classification	Frequency	Pre Test	Post Test
1	Very High	81-100	Pretest	Posttest
2	High	61-80		1
3	Moderate	41-60	10	8
4	Less	21-40	12	15
5	Very Less	0-20	2	
	Total		24	

The average cadets’ learning outcomes in teaching Maritime English through marlins English who follow the synchronous learning method are calculated using the one sample t-test formula. One sample t-test / one sample t-test is a way to test the difference in the sample mean with certain values/constants. The test was carried out with the help of SPSS 28 software and used an error rate of 5%. Analysis of the achievement of learning outcomes with the help of SPSS 28.

Furthermore, the results of pretest-posttest score distribution of using synchronous learning in teaching Maritime English through marlins English in cadets of Engine Department of class 3A at Polytechnics of Makassar Merchant was described by the polygon graph below:

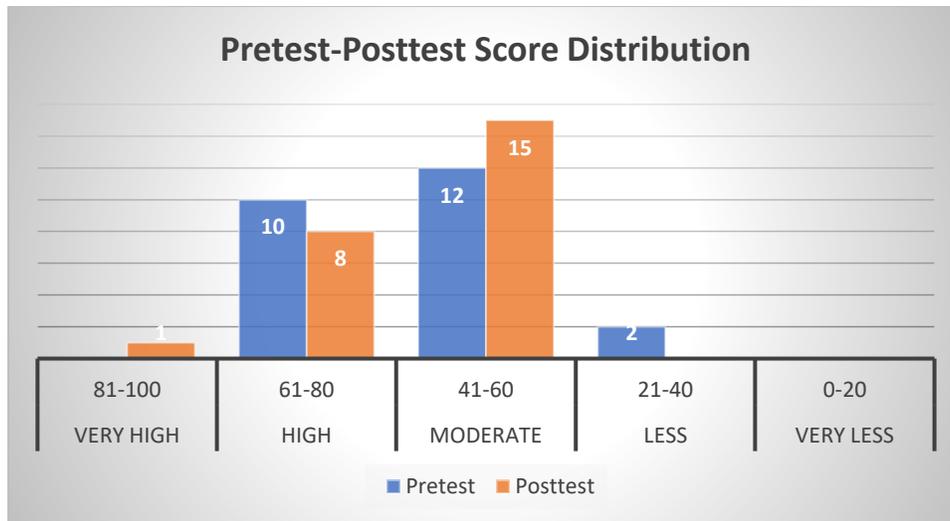


Figure 1.1 Pretest-Posttest Score Distribution of using synchronous learning in teaching Maritime English through marlins English

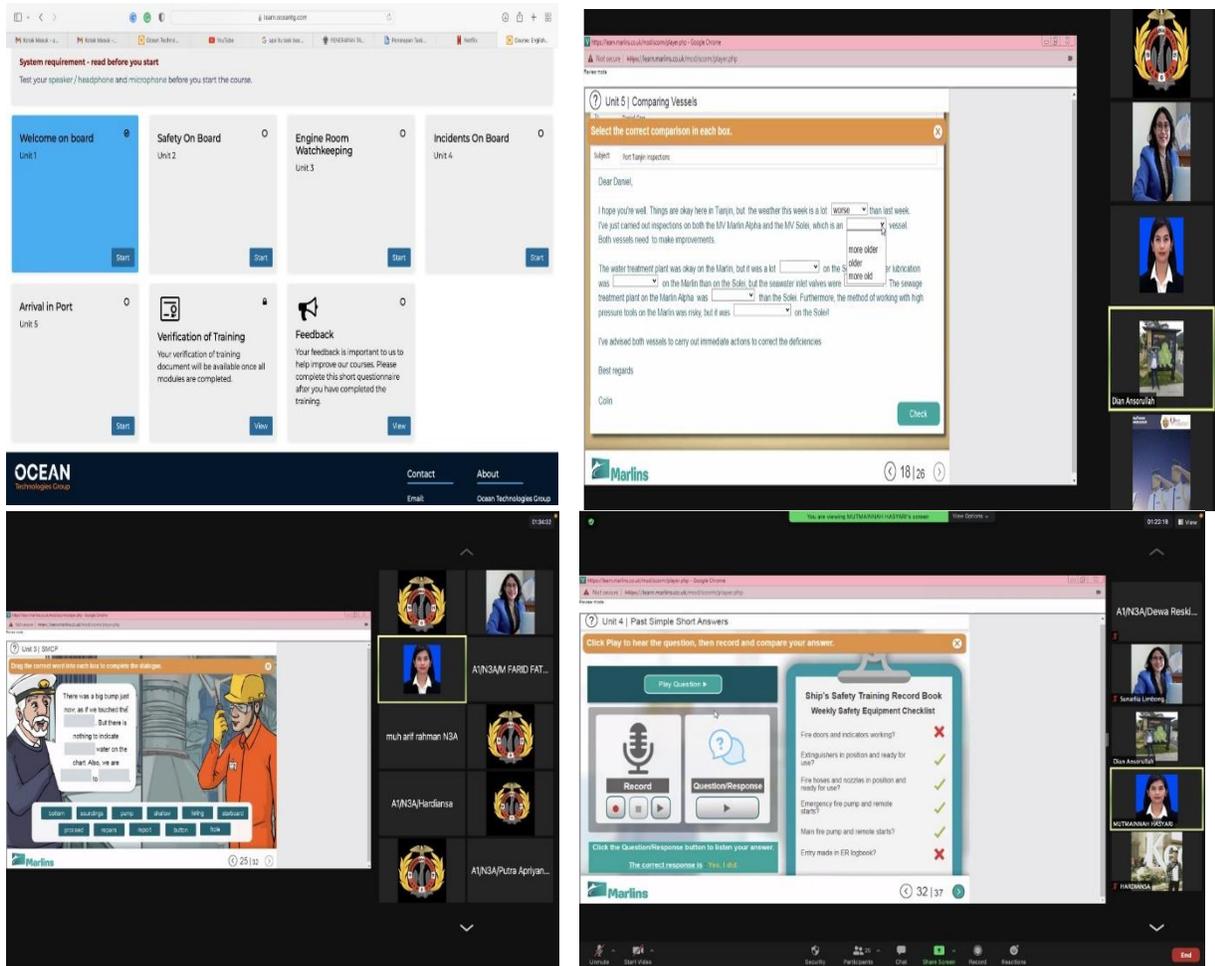
Based on the results of pretest-posttest score distribution of using synchronous learning in teaching Maritime English through marlins English in cadets of class Engine Department of class 3A at Polytechnics of Makassar Merchant. The polygon graph above shows: (1) in the category of "very high", there was 1 cadet in the pretest score; from 24 cadets, there were 10 cadets who got a high score in pretest while there were 8 cadets who got high score in the posttest. (2) in the category of "moderate", there were 12 cadets in the pretest score; from 24 cadets, there were 15 cadets who got a moderate score in the post-test, only two cadets got less category, and no cadet was included in the very low category.

Moreover, Paired samples t-test results to determine the effectiveness of using synchronous learning in teaching Maritime English through marlins English in cadets' learning outcomes in the industrial revolution 4.0 before and after treatment showed the responsibility description of 24 cadets of Engine Department of class 3A at Polytechnics of Makassar Merchant are shown in table 2.1 below:

Table 1.3. T-Test Pretest and Posttest Paired Samples
Paired Samples Test

	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Paired Sample 1 Pretest - Posttest	1,250	13,929	2,843	7,132	4,632	-4,440	23	,001

The above table of Paired Samples Statistics shows that in terms of the average score of using synchronous learning in teaching Maritime English through marlins English in cadets' learning outcomes in the industrial revolution 4.0 before and after treatment showed that from 24 cadets of Engine Department of class 3A at Polytechnics of Makassar Merchant, there is mean score of 1,250. The data in the table of Paired Samples Test Shows Sig. value of (2- tailed) (0.001) < (0.05) and value of t count of (-4.440) > t table (23; 0.05) is 1.713, so that Ho is rejected. Therefore, statistically, the classical guidance service by using synchronous learning in teaching Maritime English through marlins English in cadets' learning outcomes in the industrial revolution 4.0 before and after treatment showed that from 24 cadets of Engine Department of class 3A at Polytechnics of Makassar Merchant before and after the treatment is significant.



Figures 1.2 of using synchronous learning in teaching Maritime English through marlins English for cadets

The findings of Cadets' learning outcomes were calculated from the scores before and after the learning process of Maritime English through marlins English. Cadets were in pre-experimental class before being given treatment in the form of a synchronous learning method and were given a test first to measure cadets' understanding of the Maritime English course. After being given treatment, cadets' learning outcomes were also measured using the same test questions as before. The results of calculating the value of learning outcomes before and after research in the experimental class can be seen in Table 1.2 above.

Cadets' learning outcomes in the pre-experimental class using the synchronous method obtained high scores. In synchronous learning, cadets can understand the lecturer's explanation and can ask questions if they have difficulty in lectures. This is because cadets understood the material of Maritime English delivered by the lecturer when learning was synchronous with face-to-face virtual directly between lecturers and cadets. The interaction of cadets and lecturers was carried out through virtual applications such as the English Marlins application. Marlins offers a variety of tools for crew assessment and training in addition to English testing options for seafarers. These materials are used by significant employers in the ship management, marine leisure, and offshore sectors for recruitment and training purposes, and they are applied globally. One of the learning products offered by Marlins is Marlins English for seafarers. This product contains maritime English that will be used on ship particular effective communication. As previously stated, the IMO STCW Convention, SOLAS, ISM Code, and other international regulations all need excellent communication to protect the safety of crews and vessels. A communication breakdown can have serious effects on the crew, the marine environment, the cargo, the vessel, and the ship owner. Although English is widely recognized as the common working language of ships around the world, crews have various levels of Maritime English proficiency.

Other studies have found that colleges that employ blended synchronous learning must provide adequate support for both cadets and instructors in the instructional, social, and learning dimensions (Szeto, E. (2014). According to the study's findings, effective strategies to conduct collaborative writing activities, as well as the provision of synchronous written corrective feedback (SWCF), are discussed (Kim et al., 2020). According to the findings, a synchronous course provided via VIRI classroom technology achieves

the same degree of student performance outcomes as face-to-face learning. VIRI technology, according to this study, is a good synchronous learning environment (Francescucci, A., & Rohani, L, 2019). Also, the results of research related to synchronous distance learning for mentally retarded cadets at SLB Gedangan describe that synchronous distance learning must be carried out completely through parental assistance, and the success of synchronous distance learning is influenced by several factors, including: the system and the technology used, the readiness of the teaching staff, the readiness of cadets, the content of the learning (Siregar et al., 2020).

According to the results of the analysis that has been carried out, it is concluded that there are significant results in learning outcomes that apply synchronous learning methods in Maritime English courses with details of cadets' learning outcomes who apply high synchronous learning methods because synchronous online learning methods through Marlins English can activate cadets by direct interaction between cadets and lecturers so that lecturers can find out the level of cadets' understanding of the Maritime English material for Engine Department of class 3A at Polytechnics of Makassar Merchant.

Educators use online learning in the teaching process during the COVID-19 epidemic. Basic interactive online learning methods, such as synchronous learning, are available as a face-to-face learning process via online media. To complement the learning activities, distance learning media is designed with a synchronous approach based on virtual class technology that uses virtual computer and internet technology which can be called Virtual class.

The English lecturer provides material directly through Marlins English. The time given is a maximum of 2 x 45 minutes in 1 day, including a question and answer session or discussion. Synchronous learning is learning that is carried out in real time, where the learning carried out between teachers and students is both online and can carry out two-way communication directly, providing feedback. Learning with a synchronous learning model with video conferencing, the English lecturer tried to maintain an emotional closeness by involving cadets in the Engine Department of class 3A at Polytechnics of Makassar Merchant for cadets' activities to answer questions in the form of polls between teachers delivering material. This is to activate students. In addition, students also ask unique and interesting questions.

It is necessary to have learning media that can be used during learning Maritime English. The kind of platform that will be used in this study namely Marlins; because Marlins English refers to an online learning platform for seafarers for the Engine Department of class 3A at Polytechnics of Makassar Merchant that is not just in English language learning but also includes other maritime-related resources such as E-learning solutions for the shipping, cruise, yacht, and offshore industries.

4. Conclusion and Recommendation

Based on the results of the research and discussion, conclusions and suggestions are given as follows: The average learning outcomes of maritime English in cadets who apply the synchronous learning from cadets of the Engine Department of class 3A. There is a mean score of 1,250. Data table of Paired Samples Test Shows Sig. value of (2- tailed) (0.001) < (0.05) and value of t count of (-4.440) > t table (23; 0.05) is 1.713. From 24 cadets before and after the treatment is significant. Furthermore, lecturers are expected to be able to use synchronous methods in online learning in order to foster cadets' interest in learning maritime English so as to produce quality learning; Because synchronous online learning methods through Marlins English can activate cadets by direct interaction between cadets and lecturers so that lecturers can find out the level of cadets' understanding of the Maritime English material for Engine Department of class 3A at Polytechnics of Makassar Merchant. Cadets are also expected to be able to use the synchronous learning method seriously so that they can produce good learning outcomes. Further researchers are expected that they will be able to conduct further research with a more in-depth scope related to online learning.

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