

Maritime Education after COVID-19 Era

D. Prayogo¹, Supendi², D. Antoro¹, S. Huda¹, A. Fitriyaningsih¹, F. Surjaman¹, Purwantono¹, M. Choeroni¹ & Sugiyarto³

¹ Politeknik Ilmu Pelayaran Semarang, Indonesia

² Sekolah Tinggi Ilmu Pelayaran Jakarta, Indonesia

³ Politeknik Keselamatan Transportasi Jalan, Indonesia

ABSTRACT: The COVID-19 pandemic has very quickly changed various human behavior including the world of education. Maritime Education is one that feels the impact of the pandemic. Various Solutions in educational technology must be quickly adjusted to fill the gap and ensure learning is not disrupted. Although online learning is not new, with the pandemic can accelerate digital learning used to overcome and improve the quality of online learning. Article we want to convey our experience in organizing maritime education at the Semarang Shipping Science Polytechnic using case study techniques. The results of this study revealed that although online learning is very helpful for teaching and learning activities during the pandemic, it has not been able to replace practical learning. With the decline of Covid-19 pandemic cases in Indonesia, the author wants to make short-term breakthroughs and possible long-term solutions that can contribute to learning in the future. The use of learning recordings with simulators, practicum recordings and theoretical learning recordings is expected to help maritime learning in the future.

1 INTRODUCTION

The occurrence of the COVID-19 pandemic made the education world look for new learning methods. Maritime Education is one of the institutions affected. The results of a survey conducted by the International Association Maritime University (IAMU) have reported that 93% of its member universities are affected by its education. Pandemic forces to find alternatives to overcome the learning process [1]. Politeknik Ilmu Pelayaran Semarang including these impacts because during the pandemic, work and learning from home limited facilities, physical meetings and social interactions to reduce the risk of contracting Covid-19 disease.

The era of the industrial revolution 4.0, it is hoped that students can maximize the use of learning media as an effective teaching and learning resource. But

what is currently happening in the field, the use of learning media based on information technology, has not been fully used optimally and the method of delivering learning materials still tends to be monotonous and oriented to Lecturers / Instructors as a source of learning. [2].

This state makes a change from traditional learning in the classroom to virtual learning. But for maritime learning that includes vocational education, it turns out that learning like this is not fully maximal. Thus, a blended learning approach is needed to combine online learning with practicum learning. [3].

Covid-19 makes maritime education to adapt faster. Learning is carried out online, discussions, questions and answers to assessments are also carried out online, for practicums, carried out with structured video demos, simulator training online [4] with all its limitations. In a previous article published before-

COVID-19, the authors reviewed applications of immersive technologies, such as virtual and augmented reality that have maritime simulation learning platforms. [5].

Researchers tried to provide temporary solutions, especially in maritime education at the Semarang Shipping Science Polytechnic from the perception of teachers. Researchers consider that online learning with a touch of technology as a solution for maritime education in the future.

1.1 Maritime Education

Education is a process of gaining knowledge (knowledge acquisition), the process of honing skills (skills development), the process of changing attitudes (attitude of change). Education has several functions, namely individual and social functions [6]. Individual encourages people to be more productive in facing the future. Social functions help a person to become a society that provides experience. Training management is a process to condition the available educational resources including lecturers, education personnel, libraries, laboratories, facilities and infrastructure in achieving educational goals.

Educational institutions as a system in the social sphere are an integrated part of each other. The quality of Human Resources (HR), not only depends on the efforts made in educational institutions, but also influenced by the participation of the surrounding community towards education. The higher the participation of the community, will have an impact on the progress of Human Resources in the environment. The lower the participation of the community in the world of education in the environment, the more backward the quality of Human Resources produced in the area.

Maritime education management is used to organize activities starting from admission, management, learning activities to run in an orderly manner in order to achieve the desired goals. [7].

In conjunction with the Education Management activities at the Semarang Shipping Science Polytechnic, it is focused on developing safety culture, health activities and quality improvement activities. In order to instill a culture of shipping safety at sea, it can be started from agreement activities by training participants that contain rules during training, rules in teaching and learning activities, and sanctions for participants who violate regulations, etc. Then, the training program is carried out by emphasizing the importance of planting values to discipline and safety during training activities. This regulation is established, socialized and applied by training institutions regularly and continuously until a safety culture can be formed starting from the training institution that will be applied on the ship. After that, for the activity program in order to improve the quality of learning to be more directed to the development of teaching materials in accordance with the changing times made in all training eyes by always instilling culture zero accident.

Politeknik Ilmu Pelayaran Semarang Is one of the sea transportation schools that organize higher

education that produces graduates to work in the field of shipping professionally to meet national shipping needs and be able to compete internationally. Therefore, it requires the provision of abilities, discipline, and expertise according to international standards.

1.2 After COVID-19

The COVID-19 pandemic has an impact on education and creates major challenges for higher education. Maintaining distance and isolation is applied to reduce the spread of the virus including closing universities and reorganizing teaching and learning activities to online learning. COVID-19 requires educational institutions to maximize technology in the teaching and learning process.

Maritime education relies on internships as structured learning through on-board experience as an effort to achieve maritime competence to work on board [8]. This is done to obtain skills, knowledge and experience on board. With the introduction and adaptation on board the ship accordingly.

STCW advocates education in schools and internships on board. The maritime curriculum is carried out with theory and practice, theory is carried out in the classroom, using books and discussions and conducted on board and hands-on experience through simulators. In mid-2022, the Covid 19 Pandemic in Indonesia has begun to have leeway. Learning is done face-to-face and masks can be left in open areas. But the Covid 19 pandemic has provided various experiences. By combining theoretical learning obtained through traditional lectures combined with online learning, distance learning and online exams are expected to improve the experience and training to the maximum, then the video recording model and simulator training can be accessed remotely. combined with practical experience at sea [9].

2 METHODOLOGY OF COLLECTING INFORMATION

This research is a case study conducted at the Polytechnic of Shipping Science before and after the Covid 19 Pandemic [10]. Data is obtained through the author's observation and direct experience of learning conditions, observed, written and processed in the form of a summary then processed and applied in learning. Instrument used is the researcher himself. Valid instruments through expert assessment.

To analyze the data, the researchers used descriptive methods. This method is then combined with the qualitative method of case study, so as to evaluate the implementation of education. The next step is to choose an education and training model through a Planning, Implementation, and Control approach to determine the appropriate model and may be useful as a development strategy.

This study intends to get a concrete picture of the implementation of maritime education after the Covid-19 Pandemic. The study also reports in detail on student behavior, learning activities, and

exploration to determine the right learning methods and development to be applied in everyday learning.

3 RESULTS AND DISCUSSION

3.1 Result

The closure of access to education during the COVID-19 pandemic and the implementation of the Implementation of health protocols were carried out to control transmission, so that lecturers and students could not meet face to face for teaching and learning activities. The direct solution used is the use of online technology that supports education. Media used for learning in Politeknik Ilmu Pelayaran Semarang are zoom, google meet, youtube and e-learning. Information technology infrastructure, video-based digital communication development integrated in post-COVID-19 education is superior when compared to conventional learning.

Video collaboration using laboratory equipment, simulators or practicum equipment is carried out in groups, involving instructors and students face-to-face physically and online into a sustainable solution. Mahasiswa learning online enjoys their own speed and the flexibility of learning from anywhere and anytime in learning. Among students and lecturers are not bound by place and time [10]. However, online learning also has various disadvantages due to the lack of interaction between lecturers and students [11]. Students tend to be less enthusiastic and difficult to control how active they learn. Learning is essentially the process from not knowing to knowing. But lecturers have difficulty monitoring how much knowledge level of their students, especially maritime learning centering unique and requires a more social approach because they have to prepare mentally and physically when on the boat later. Despite the limitations of online learning, the positive side alone is taken and developed after the pandemic gradually ends. Online and face-to-face collaboration is one of the smartest options for continuing education after this situation.

E-learning which is commonly used at the Semarang Shipping Science Polytechnic as an organizer of maritime education includes digital books/readings, power points, and video recordings, both learning recordings, tutorials and how a machine, auxiliary equipment, machine or maritime simulator works. Online learning platforms are used to distribute learning and communication materials, including whatsapp, email, messages, social media used to maintain communication. Other learning media are generally such as google classroom, google meet, zoom. College assignments use Google Form, Quizzizz, Kahoot and the use of e-learning. Online lectures are conducted for communication between lecturers and students, such as in live classroom lectures.

3.2 Discussion

Blended Learning is considered suitable at the Semarang Shipping Science Polytechnic after the pandemic. This method is expected to strengthen conventional learning methods even though face-to-face learning has begun to be done. Classes with the same course can be combined using online classes without being adrift, can be recorded and used as digital video records for students who are late, cannot attend lectures and students who do not understand the material can be used as an advanced reference. But for practicum, it is still done face-to-face with previous digital explanations so that the results can be maximized. With the incorporation of this learning method, theoretical learning can be done anytime and anywhere and learning time can be prioritized for practicum, so that the quality of vocational school graduates can be further improved by the priority of the same time allocation but the results can be maximized.

At the end of each chapter and material session, it is given online questions using google form, quizzizz or kahoot. The online application is very helpful for writers in testing students about how far the mastery of the material or just a quiz to create an atmosphere so that online learning feels real. Scores after answering can also be directly displayed so there is no need to provide corrections such as problems in conventional learning. Students below the minimum score can be directly assigned assignments or replay questions to achieve minimum grades. When using the zoom application, it can also be done room sharing so that discussions on online learning can also take place properly. In May 2022, the Indonesian government announced a relaxation of wearing masks and applied face-to-face learning, but the author felt that the Covid-19 pandemic made the breakthrough in the field of Education still used to help the maritime teaching and learning process because it was superior when compared to conventional learning before the pandemic. Digital learning in the future that wants to be pioneered is digital learning that utilizes web-based simulators for remote training even though the pandemic has begun to end [12].

The Internet, as a medium of education, is already helping new methods for lecturers, students and college admins to share information, resources and communicate, creating a new ecosystem in the way education is used and utilized by all parties. The current concept of distance learning refers to the use of web-based online learning. The utilization of the internet is becoming more attractive for online learning because it provides solutions for learning. Students become easier to communicate with other students in real terms and interact socially with library lecturers, administrative personnel and other sources of information that were previously difficult to do [13]. These various learnings are a solution for better online learning, especially maritime education at the Semarang Shipping Science Polytechnic. The COVID-19 pandemic taught blended learning models faster than previously thought, consisting of online lectures and the use of the internet in learning. This learning model has flexibility and reliable ability and is easier to adapt to the evolving situation in the world of Education. Information, meetings,

regulations, changes or new methods in the world of Education become easier to socialize to all levels of Education, faster, cheaper, effective and efficient without limited space and time.

Education using emerging technologies and has the potential to change good educational methods in the future [14]. There are two major changes envisaged for the future education of maritime learning, among them are the use of Virtual Reality and Adaptive Learning.

Virtual Reality is more sophisticated and cost-effective, Virtual Reality technology provides high-quality simulations at a relatively low cost compared to conventional simulators. The latest generation of Virtual Reality technology has lowered prices, high-resolution displays, powerful computing and more compact graphics processors at a cheaper price as a maritime school investment cost. [15]. Adaptive Learning is considered the next solution because it has the ability to provide computer-assisted training and provide benefits for students to review the material delivered in the classroom and provide assessments. Adaptive learning is a learning method that prioritizes effectiveness and efficiency. Adaptive learning is a teaching and learning process that is made according to the needs of students through appropriate learning resources and feedback and prompt direction between teachers and students.

Adaptive Learning takes it one step further and is based on the idea of adapting learning methods to students' learning styles [16]. Adaptive Learning is suitable for generation Z children who have clever characteristics and are close to technology and the internet, multitasking, more interested in visuals, like dynamic and fast work, and enjoy trying.

To carry out the learning of this digital era, it takes the ability and skills to use technology as well as competencies to integrate technology into teaching. As education moves towards online, it is important to ensure that teachers and students have the necessary technological skills. Mahasiswa when preferring to use technology and more comfortable in using a computer, internet. So that lecturers must be able to compensate, provide examples, facilitate the supremacies, and make virtual exploration more real, flexible and facilitate the delivery and understanding of materials. Lecturers must be able to train interaction, provide material reinforcement, develop student knowledge, provide feedback through verbal cues and physical movements [17][18].

4 CONCLUSION

The COVID-19 pandemic is a lesson for maritime education. Learn from his own experience to apply practical solutions to future education. The author tried to share the experience using a blended learning approach that is suitable to be applied at the Semarang Shipping Science Polytechnic. This method is easier to apply in learning and can be developed to the maximum in the future. Millennial education is forced to adapt together and connect with the world community. Thus, we can learn with other students around the world, collaborate and adapt together. The

benefits of post-pandemic blended learning are expected to be the future solution of shipping education and have a positive impact on students, lecturers and maritime education as a whole as well as the continued use of information technology.

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