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Artificial Intelligence (AI) in Maritime English Learning Media

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Abstract: The primary language used for communication at sea or in the maritime industry is maritime English. As a result, students at the maritime polytechnic are required to become proficient in this language. Since it is impossible to separate technological advancements from current learning activities, this study attempts to investigate the students' perception in using AI when conducting maritime English-speaking activities especially in higher vocational education. A quantitative method is conducted to analyze the questionnaire result of the students' perception in using AI when conducting maritime English-speaking activities. This study revealed that the using of AI was needed and had positive impact in maritime English learning. Then, AI could help students in learning by assisting them exploring the appropriate vocabularies so that they were able to produce good speaking skill. And the last was the most common type of AI used were the ChatGPT, Quillbot, and Yeschat AI

Keywords: *artificial intelligence; speaking; learning media; maritime English*

INTRODUCTION

Effective communication is essential in the dynamic maritime sector to guarantee efficiency, safety, and adherence to global rules. As the universal language of mariners, nautical English facilitates easy communication between officers, crew, and maritime authorities. However, for marine professionals, language limitations and disparities in skill levels provide serious obstacles, underscoring the need for creative learning strategies. Because it provides individualized, flexible, and interactive learning experiences, artificial intelligence (AI) has become a game-changing technology in language acquisition. By offering real-time feedback, immersive simulations, and personal- ized learning pathways, AI-powered learning resources including chatbot-based language assistants, speech recognition software, and intelligent tutoring systems have the potential to improve Mari- time English training. By enhancing their language skills and general communication abilities, these developments address the particular requirements of marine workers. This study attempts to reveal the students' perceptions towards the use of AI in the maritime English-speaking activities. Maritime institutions may contribute to safer and more productive international maritime operations by utilizing AI technologies to develop more effective and captivating learning environments. The shortcomings in the industry were filled by using technology into maritime education and maritime English teaching (MET). AI and other technological advancements improved existing teaching strategies and introduced new learning paradigms. AI integration into MET has resulted in a more effective and customized learning environment. In addition to offering tailored support and focused

practice to help students become proficient in English, it has encouraged language teachers to be more inventive in creating captivating and interactive exercises. There may be many advantages to using AI in maritime training and education. Benefits included meeting student needs, guaranteeing a strong connection between educational theory and practice—a crucial component for students pursuing maritime specialties—reducing teachers' workload by freeing them up to concentrate on planning interactive learning activities using AI instead of managing technical duties like grading, producing educational content, and assisting teachers by producing a variety of individualized learning materials, and, finally, providing real-time assistance and interactive practice. Learners can interact with AI-powered tutoring systems, such as chatbots and virtual tutors, at any time and from any location since these tools can mimic conversations that include students in personalized role- plays and offer immediate feedback on and provide instant feedback on grammar, vocabulary, and pronunciation (Natalia, 2024).

Meanwhile, the using of AI in higher education students were made as a subject of several previous studies. They were study in 2023 which revealed that 75% of American college students had used ChatGPT and other AI applications for academic reasons, including as research, writing, and study support (Cavazos et al., 2024), then one study in English learning found that a lot of students utilized ChatGPT, QuillBot, and Grammarly which such as platforms driven by artificial intelligence—to improve their writing and comprehension abilities (Syarifah & Fakhruddin, 2024). Another study was conducted by Zhang (2023) which discovered that more than 60% of college students globally utilize AI for homework, coding, and problem-solving. ChatGPT is a “large language model” (LLM), an artificial intelligence system or tool that is equipped with the ability to read, make summaries, solve math problems, produce course syllabi drafts, tutor students and explain terms and abstract concepts and theories, find and fix errors or bugs in the source code of computer programs; write various types essays (including but not limited to: descriptive, narrative, persua- sive, argumentative, and expository), create consulting reports and new arts, recognize scholarly debates in various fields of study via its access to relevant literature, provide translation of texts, create bibliographical references lists, and predict words that will come next in a sentence that can create sentences comparable to what human beings write and speak (Shaikh et al. 2023). Mean- while, related to the learning media, the plural form of the term "medium" is media, which relates to the theoretical foundation. The first or intermediate channel of communication between the sender and the recipient can be considered the medium (Heinich, R., Molenda, M., Russell, J. D., & Smaldino, 2001). The Latin plural form of media gives the term media another meaning. This study focuses on educational media, namely media used as tools and materials for learning activities, despite the fact that the concept of media is broad. Based on their type, learning media are divided into four categories: 1. Technology for printing materials. 2. Media produced with audiovisual equipment. 3. A computer-based learning platform 4. A learning environment accessible via the Internet (Daryanto, 2010).

Furthermore. the similar efforts were conducted in the maritime polytechnic in Indonesia which had to prepare the students using of English as the international language. There was maritime English subject as the English for Specific Purposes (ESP) that they had to follow. Based on the previous observations, 80% of the 200 students in the Ship Operation Engineering Technology Department were still at the false-beginner level in the English proficiency mostly in speaking. Out of the four fundamental language abilities required to learn a second or foreign language, speaking

is said to be the most crucial. Speaking is seen as a very significant ability since it is required for oral communication (Islam et al., 2022). Additionally, speaking is the process of using both verbal and nonverbal cues to create and exchange meaning in a variety of contexts (Kuning, 2019).

Therefore, to improve language acquisition, communication instruction, and professional development for seafarers and maritime professionals, artificial intelligence (AI) was used to revolt English for Specific Purposes (ESP) in maritime education. Most learning activities were in the language laboratory where the learning media such as personal computer, audio, and other things were available so that the AI could be easily accessed by the students. AI-powered solutions offer individualized and flexible learning experiences catered to marine English requirements since efficient communication is crucial for operations and safety in the maritime sector, especially ChatGPT, QuillBot, and Yeschat AI as the examples of the AI tools. So, this study tried to investigate the students' perceptions towards the use of AI in the maritime English-speaking activity.

METHOD

Research design

Using a quantitative framework, this study investigated how cutting-edge technology was used to teach maritime English. The authors cited the STCW hypothesis regarding proficiency in this specialized language, namely in English. Furthermore, it was clear that ship-board procedures, written and verbal instructions, and responses to them often deviate from their original objective since the International Safety Management (ISM) Code required that all parties communicate in a common language. Concepts were therefore restricted by the IMO Model Course 3. I7 Maritime English and IMO Standard Marine Communication Phrases rules.

Population, Sample, Sampling

The participants were chosen using a purposive selection technique. Purposive sampling combined with a non-probability sampling strategy was employed by the researcher. Purposive sampling is a group of different non-probability sampling procedures that rely on the researcher's judgment in selecting the units (individuals, cases/organizations, events, or data points) to be analyzed. It is also known as judging, selective, or subjective sampling (Rai & Thapa, 2019). Non-probability sampling is a sampling method that does not provide every component or individual in the population an equal chance of being chosen as a sample (Sugiyono, 2016). The population was from 80 (eighty) students majoring Ship Operation Technology study program in one of maritime polytechnic in Indonesia. 40 (forty) students were the samples that filled out the questionnaire.

Instrument

Students were administered the speaking session in maritime English lesson. The topics of speaking were describing a typical day in the life of the officers on board, explaining the procedures of ship-to-ship communication using VHF radio, and discussing the key vocabulary needed for a ship's operational briefing. The students were asked to use ChatGPT, Quillbot, and Yeschat AI. After that, students' opinions were collected regarding to the employment of artificial intelligence in maritime English language lesson using a questionnaire created by the researcher. Participants were given a Google Form link including ten questions using a five-point Likert scale: Strongly Agree (SA), Agree (A), Neutral (N), Disagree (D), and Strongly Disagree (SD). In order to improve the validity

of the data, researchers employed this technique to make it easier to choose responses from a large sample. To investigate students' opinions regarding the employment of AI in language instruction, the data collected from the questionnaire is displayed in tabular form. Based on the questions, the participants' responses were then expressed as a percentage.

RESULTS AND DISCUSSION

The results of this research were described in questionnaire about the engaging of using Artificial Intelligence in maritime English language learning. Researchers described every item question in every variable to facilitate analysis the questionnaire. There are 6 questions in the form of statements in the questionnaire. The first statement was "I think Artificial Intelligence is needed in maritime English learning". The second statement was "Artificial Intelligence have positive impact in learning maritime English". The third statement was "I use Artificial Intelligence to help in learning maritime English. The fourth statement was "I can produce good speaking skill using Artificial Intelligence". The fifth statement was "Artificial Intelligence help me to explore appropriate maritime vocabularies in speaking activities". The sixth statement was "I use product of Artificial Intelli- gence in English learning like Chat GPT, Quillbot, and Yeschat AI." The questionnaire results were described as followed:

Table 1. The Need Artificial Intelligence in maritime English learning

Category	Frequency	Percentage
Strongly Agree	15	37.5%
Agree	24	60%
Neutral	1	2.5%
Disagree	0	0%
Strongly Disagree	0	0%

From the table 1 about students' perception about Artificial Intelligence was needed in maritime English learning could be seen that 15 respondent or 37.5% are strongly agree, 24 respondents or 60% are agree, 1 respondent or 2.5% was neutral. Both disagree and strongly disagree with statement about Artificial Intelligence was needed in English learning were zero. Based on the table 1, it could be concluded that the most students agreed that Artificial Intelligence was needed in maritime English learning. This was appropriate with research results from Tiwari (2024) that participants of their research view AI technologies as effective instruments for enhancing language skills, delivering tailored instruction, and increasing student engagement.

Table 2. The Positive Impact of Artificial Intelligence in maritime English learning

Category	Frequency	Percentage
Strongly Agree	20	50%
Agree	17	42.5%
Neutral	2	5%
Disagree	1	2.5%
Strongly Disagree	0	0%

Next, from the table 2 about students' perception about Artificial Intelligence had positive impact for English learning could be seen that 20 respondent or 50% was strongly agree, 17 re-

spondents or 42.5% were agree, 2 respondents or 5% were neutral, 1 respondent or 10% was disagree, none respondent or 0% is strongly disagree, with statement about Artificial Intelligence have positive impact for maritime English learning. Based on the table 2, it could be concluded that most students agree about Artificial Intelligence had positive impact for English learning.

Table 3. Artificial Intelligence is useful in maritime English learning

Category	Frequency	Percentage
Strongly Agree	30	75%
Agree	10	25%
Neutral	0	0%
Disagree	0	0%
Strongly Disagree	0	0%

Then, from the table 3 on the usefulness of Artificial Intelligence for the students, it was proven that most of the students or 75% strongly agree that AI was useful. While 25% stated that they agree with the statement. None respondent or 0% is neutral, disagree or strongly disagree. So, it could be concluded that Artificial Intelligence is useful in maritime English learning.

Table 4. Artificial Intelligence is able to Produce Good Speaking Skill

Category	Frequency	Percentage
Strongly Agree	10	25%
Agree	16	40%
Neutral	5	12.5%
Disagree	9	22.5%
Strongly Disagree	0	0%

Meanwhile in table 4, 10 respondents or 25% were strongly agree and 16 or 40% agree that Artificial Intelligence was able to produce good speaking skill. 5 respondents or 12.5% were neutral and 9 respondents or 22.5% disagree. So, it could be summarized that AI was able to produce good speaking skill. The similar research which revealed this positive effect of AI to speaking skill was conducted by Imran et al. (2023) stated that more individualized and adaptable education is now possible thanks to artificial intelligence (AI) technologies, particularly in language learning while developing oral proficiency.

Table 5. Artificial Intelligence is useful to explore appropriate maritime vocabularies in speaking activities

Category	Frequency	Percentage
Strongly Agree	17	42.5%
Agree	23	57.5%
Neutral	0	0%
Disagree	0	0%
Strongly Disagree	0	0%

Next, based on table 5, 17 respondents or 42.5% were strongly agree and 23 or 57.5% agree that Artificial Intelligence was useful to explore appropriate maritime vocabularies in speaking activities while none or 0% was neutral, disagree or strongly disagree. So, it could be summarized that AI was useful to explore appropriate maritime vocabularies when the students had speaking activities.

The similar research which revealed this positive effect of AI to speaking skill was conducted by Karim et al. (2023) stated that more individualized and adaptable education is now possible thanks to artificial intelligence (AI) technologies, particularly in language learning while developing oral proficiency.

Table 6. The Products of Artificial Intelligence in Maritime English learning such as Chat GPT, Quillbot, or Yeschat AI

Category	Frequency	Percentage
Strongly Agree	30	75%
Agree	8	20%
Neutral	2	5%
Disagree	0	0%
Strongly Disagree	0	0%

Finally in table 6, 30 respondents or 75% were strongly agree and 8 or 20% agree that Artificial Intelligence used were the ChatGPT, QuillBot, and Yeschat AI. While 2 or 5% was neutral or did not give specific answers. Moreover those who had answers disagree and strongly disagree was 0 or 0%. So, it could be summarized that most of the students were using and also familiar with ChatGPT, QuillBot, and Yeschat AI . Related to the similar research, Delello et al. (2023) conclud- ed that the students were using the ChatGPT to assist them studying and improving their foreign language proficiencies.

CONCLUSION

It can be deduced from the evidence and arguments presented above that students think artificial intelligence is required for marine English-speaking activities. Artificial intelligence can potentially affect English instruction in both beneficial and negative ways, depending on how and when it is deployed. Furthermore, Chat GPT, QuillBot, and Yeschat AI are examples of artificial intelligence technologies that help students improve their English proficiency especially in speaking. This study concluded that this study revealed that the using of AI was needed and had positive impact in maritime English learning. Then, AI could help students in learning by assisting them exploring the appropriate vocabularies so that they were able to produce good speaking skill. And the last was the most common type of AI used were the ChatGPT, Quillbot, and Yeschat AI. Thus, it is highly advantageous and essential to use artificial intelligence (AI) in English language training. Additionally, it improves the caliber of instruction and reduces the workload for educators. Because of the limits of the data provided and the primary artificial intelligence employed in this study, any inaccuracies in the data will be reflected in the conclusions. Future researchers hope to learn more about the teachers' perspectives on the usage of AI in English language teaching for others English language skilss.

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