

# The Importance of Reading Skill for Maritime Literacy: A Literature Review

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**Abstract.** A language is needed for maritime discipline. This research aims to identify the role of language skills, especially reading skills, on learner's maritime competence. The research method used is a Systematic Literature Review. The articles used in this research are journal articles determined based on criteria from 2013-2023. Articles were obtained from the Google Scholar search page. Based on the literature review, it was found that reading skill is fundamental to improving learners' maritime literacy. Mastery of specialized vocabulary is of particular concern in maritime-based reading instruction. In reading instruction, instructors should combine theoretical and practical approaches to help develop effective reading skills for maritime literacy.

## 1 Introduction

Marine literacy competence will increase learners' awareness of maritime issues [1]. Nowadays, saving the ocean is a global issue. This awareness is demonstrated by maintaining and understanding the maritime environment, utilizing marine resources responsibly, maintaining maritime security, and maximizing maritime economic and cultural potential. Maritime literacy can be defined as an understanding of oceans and coasts that includes the knowledge, skills, attitudes, and values needed to actively participate in managing and conserving of the marine environment [2]. The safety of life at sea and a friendly marine environment depend on maritime competence.

Education is a fundamental part of building maritime literacy competencies. Maritime education is essential in helping learners develop the knowledge, skills, and attitudes needed to preserve the environment, especially coastal ecosystems, in the future [3]. Albayrak & Sağ mentioned that maritime students should know marine ecosystems and habitats, safety and security at sea, use of various standard procedures in the maritime industry [4].

Maritime education is integrated with various fields of science, including in the field of language. Arwan et al. explained maritime literacy in Indonesian learning design can encourage contextual learning [5]. Maritime literacy can be the basis of language skills, and vice versa. This is confirmed, Indonesian language learning can be a means of learning that

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integrates language skills based on marine literacy [6]. Irma et al.'s research results explained that language learning could contribute to understanding maritime and improving awareness to save the sea [7]. So that, maritime literacy could be integrated into language learning material. That means, the four language skills, listening, reading and viewing, speaking, and writing need to be integrated with maritime education. This literature review aims to determine how much reading ability plays a role in improving learners' maritime literacy.

## 2 Research Method

This article reviews literature from the Google Scholar literature search database. Journal articles were selected. Conference articles and theses were excluded. The literature was selected based on the keywords reading skills, maritime education, maritime literacy, and academic texts. The selected articles were published in the period 2013-2023. The data search found 53 articles that were considered to contain these keywords. Next, each article was examined to ensure its content was relevant to the research theme, the relationship between reading skills and maritime literacy. Eight relevant journal articles were found. All eight were analyzed in depth. The selected literature was classified based on points of view: 1) reading skills in improving maritime literacy and 2) The teaching of reading in the maritime discipline. The eight articles are listed in table 1.

**Table 1.** Overview of The Relevant Reviewed Literature

No.	Author	Year	Topic Research
1	Erawati	2014	Vocabulary Mastery On Comprehending Maritime English Texts [8]
2	Navarro et al.	2015	Maritime Students' English Proficiency and Instructional Materials [9]
3	Kourieos	2015	Academic and Professional Language Skills Needs of Maritime Students [10]
4	Sari and Sutopo	2018	Vocabulary Self-Collection and Word Mapping Strategies for Maritime Cadets [11]
5	Ahmmmed	2018	Teaching and Learning Maritime English [12]
6	Dirgeyasa	2018	Needs for Maritime English Learning Materials [13]
7	Izzati and Uchida	2022	Maritime English Reading Comprehension Learning Strategies [14]
8	Saridaki	2023	Maritime English for the Shipping Industry [15]
9	Hellystia et al.	2023	Communication Skills-Based on The Teaching and Learning [16]

## 3 Result and Discussion

Research on the relationship between reading ability and maritime literacy is limited. This can be seen from the number of relevant articles over the last 10 years, which only totaled 8 articles. The eight articles not only discuss reading proficiency but also discuss the four language skills. However, this analysis remains focused on reading skills in the maritime field. The review resulted as follows.

### 3.1 The Position of Reading Skills in Language Learning Based Maritime Discipliner

The research subjects of the eight articles were learners majoring in maritime, marine, marine industry, and related majors. Therefore, the learning materials used are related to maritime content. Five kinds of literature explicitly explain that the language proficiency needed by learners to improve maritime literacy is reading skills. The explanation is given in table 2.

**Table 2.** Reading Skills for Maritime Education

No.	References	Statement
1	Erawati	Reading informational text comprehensively is important to improve learners' understanding of maritime discipline [8].
	Navvaro et al.	Language skills that are important in improving learners' maritime literacy are reading comprehension, vocabulary, and grammar skills [9].
2	Kourieos	Listening and reading skills are more important than the other two language skills [10].
3	Ahmmmed	The research found that the language skills most needed in maritime learning are reading, writing, and speaking [12].
4	Dirgeyasa	Reading skills are essential for learners to support careers in the maritime industry [13]
5	Saridaki	Reading comprehension skills and mastery of specialized vocabulary used in the shipping industry are important objectives in the learning process [15].

Reading skills are considered to help improve learners' professional development in various sectors of the maritime industry, such as understanding reports, articles, and instruction manuals [12][13][15]. Learners must understand the log book, manual book, nautical chart, and nautical almanac. [13]. Good reading is important for industrial development [17]. The preferred reading skill is reading comprehension. Reading comprehension is conceptualized as an act of critical thinking [18]. Constructing meaning from factual texts requires care and accuracy. However, to be competent in reading skills, learners must also master grammar and vocabulary specific to maritime disciplines. There are three parts of vocabulary that learners must master, namely technical, semi-technical, and core vocabulary. The finding results showed that mastering specialized vocabulary has a positive effect on reading comprehension skills[8][19][20].

### 3.2 Reading Instruction

Five of the nine pieces of literature explain the components of learning to read in the maritime discipline. Learning approaches, learning strategies, learning techniques, and forms of material are recommended in these articles. Summarized in table 3 below.

**Table 3.** The Components of Reading Instruction

No.	References	The Components of Learning
1	Kuorieos	<ol style="list-style-type: none"> <li>1. Learning is interactive and productive.</li> <li>2. Demonstration method</li> <li>3. Discussion method</li> <li>4. Authentic assignments. [10]</li> </ol>
2	Ahmmmed	<ol style="list-style-type: none"> <li>1. Use of language lab, readers' library, and CALL (Computer Assisted Language Learning)</li> <li>2. "Communicative Language Teaching" (CLT)</li> <li>3. "Content-Based Instruction" (CBI)</li> <li>4. "Task-Based Language Teaching" (TBLT) [12]</li> </ol>
3	Navvaro et al.	<ol style="list-style-type: none"> <li>1. Textbook</li> <li>2. Learning media (multimedia and software)</li> </ol>

		3. Assignments: reading report and research report [9]
4	Saridaki	1. Humanistic Language Teaching 2. Communicative approach 3. Collaboration between subject specialists, students, and professionals 4. SMCP (Standard Marine Communication Phrases). [15]
5	Sari and Sutopo	1. Vocabulary Self-Collection Strategy (VSS) 2. Word-Mapping Strategy (WMS) [11]
6	Izzati and Uchida	1. The Vocabulary List Method 2. The Reading Practice Method 3. The Vocabulary List and Reading Practice Method [14]

Table 3 shows some of the learning strategies offered by researchers. Saridaki offers a communicative approach in maritime-based reading learning [15]. Yashnikova explained that the communicative approach is the basis for teaching reading to cadets because sailors are expected to interpret the messages they hear and read correctly[21]. Research findings Saridaki’s communicative Approach explores the communicative function of language and the importance of concepts such as "meaning" and "pragmatics" to communicate effectively in specific situations [15]. The communicative approach is effective in improving reading comprehension skills [22][23][24].

Saridaki also recommends a humanistic approach to reading learning [15]. With the humanistic approach, reading instruction focuses on learners as readers and learners' aspirations about becoming readers [25]. The reading activity will affirm and expand their way of knowing everything around which eventually can improve their humanity. We live with the rest of the natural world, take advantage of natural resources and the ocean, and are responsible for looking after it alone. In contrast to object learners who passively absorb the knowledge of their teachers, the humanistic approach sees students as active agents who can help them improve their competence and performance. [25].

Next, the recommended learning approach is Communicative Language Teaching. CLT is recommended by Ahmmed [12]. Communicative Language Teaching will improve reading comprehension [26] [27]. CLT is an effective and useful teaching method to accommodate the demands of the times. It strongly emphasizes interpersonal skills, stimulates students to communicate their enthusiasm, and stimulates their interest in the reading-learning process [23].

Learning should be interactive and productive [10]. Interactive means not only between learners and texts, texts and learners, but learning requires the collaboration of maritime discipline experts, students (learners), and professionals [15]. Interactive and productive means that learners are directly involved in learning. Therefore, Kourieos recommends the demonstration method and discussion method [10]. Demonstration method improve reading skills leaners [28] [29][30].

On the other hand, Ahmmed recommends CBI and TBLT [12]. CBI is teaching organized based on content whose teaching principles are based on CLT[31]. CBI is effective for teaching reading[31][32]. Tasks are the main activity in TBLT[33]. TBLT can improve reading comprehension skills[33][34][35][36][37]. TBLT is expected in the form of authentic assignments such as reading reports and research reports. Learning with reading report assignments and writing research reports related to learning topics will help improve maritime literacy[9].

Izza and Uchida identified the best reading comprehension strategies for nautical publication. The results found The Vocabulary List Method, The Reading Practice Method, The Vocabulary List and Reading Practice Method will motivate leaners to continue learning to keep improving their reading skills [14]. But, in this study, the VL only method is found to be the best learning method out of the three learning methods.

Teaching materials are also considered to develop the language competencies learners need [9]. Teaching materials should focus on vocabulary development, grammar improvement, and reading comprehension skills. Teaching materials also need to have authentic learning materials. Authentic materials improve learners' reading comprehension[38][17][39]. The literature review is as follows.

**Table 4.** Learning Materials for Reading Maritim Disciplines

Reference	Learning Materials
[10]Kuoricos	The learning materials are authentic materials, such as journal articles and research reports.
[12]Ahmmed	An important learning material in learning to read is using of authentic materials.
[9]Navvaro et al.	The learning materials offered are authentic materials such as documentary films, online news, and journal articles.
[15]Saridaki	The learning materials used are authentic materials such as journal articles and newspapers with maritime content.

Two kinds of literatures also describe learning strategies specific to vocabulary enhancement in the following two literatures.

1. Saridaki[15] describes general techniques in learning to read. A few examples of exercises that can be created are: finding synonyms from the text; matching the two halves of sentences and filling in the missing phrases; answering reading comprehension questions; matching to make collocations; marking sentences as true or false; completing tables with derivatives; matching terms with their definitions; and matching verbs with appropriate nouns to make collocations. Also, exercises like cloze tests and filling in vocabulary gaps within the text can be designed.

Saridaki explained this using SMCP (Standard Marine Communication Phrases)[15]. In order to improve ship behavior and navigation safety, Standard Marine Communication Phrases (SMCP) were created. Additionally, they aim to standardize the language used in communication for navigation at sea, in port approaches, on waterways, in harbors, and on board ships with multilingual crews. Lastly, they support maritime training institutions in meeting their educational goals [40]. SMCP aims to prevent marine accidents due to language barriers and miscommunications [14].

2. Sari & Sutopo offer Vocabulary Self-Collection Strategy (VSS) and Word-Mapping Strategy (WMS) vocabulary teaching strategies[11]. These strategies improve maritime vocabulary knowledge as learners actively identify important words from their reading.

Reading learning must also be relevant to current developments in science and technology, so its application requires technology-based learning media. Technology is one of the means to improve reading comprehension[41][42][43][44]. Including technology in creating maritime language curricula is critical [45]. Navarro et al. explained the need for additional learning media, such as audio tapes and the use of software[9]. Meanwhile, Ahmmed offers reading learning by combining the use of laboratories, reading libraries, and CALL (Computer Assisted Language Learning)[12].

## 4 Conclusion

This review concludes that reading comprehension skills are essential for academic success and increased competence in maritime affairs. Such reading comprehension skills must be supported by adequate knowledge of specialized vocabulary. Technical, semi-

technical, and core vocabulary. In addition, learners should also understand Standard Marine Communication Phrases.

Instructors must consider learning components, such as approaches, strategies, methods, learning techniques, and teaching materials. The reviewed literature recommendations include communicative, humanistic learning, authentic assignments, and authentic learning materials, and reading lessons relevant to technology. In addition, strategies such as Vocabulary Self-Collection Strategy (VSS) and Word-Mapping Strategy (WMS) should be pursued to improve learners' maritime vocabulary.

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