



# Implementation of Maritime Learning in Early Childhood Education (ECE) in The Coastal Area of South Garut

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## ABSTRAK

Penelitian ini bertujuan untuk mengetahui pembelajaran kemaritiman di PAUD dalam membentuk pengetahuan, sikap dan keterampilan kemaritiman pada anak usia dini. Metode yang digunakan adalah kualitatif deskriptif, dengan pengumpulan data melalui observasi, wawancara, dan dokumentasi. Jumlah partisipan terdiri dari 1 orang Kepala sekolah dan 2 orang guru dari dua lembaga PAUD yang ada di wilayah pesisir pantai. Hasil penelitian menunjukkan bahwa PAUD tersebut telah menerapkan pembelajaran kemaritiman walaupun belum diintegrasikan ke dalam kurikulum secara holistik, akan tetapi terintegrasi dengan perencanaan semester dengan penentuan tema binatang yang hidup di air, alat transportasi air, profesi nelayan, dan mitigasi bencana. Proses pembelajaran pada salah satu PAUD menggunakan media/sumber belajar laut dengan terjadwal sedangkan PAUD yang lain dengan menyesuaikan tema. Kegiatan pembelajarannya adalah mengenal biota laut, mengenal benda sekitar pesisir pantai, bermain pasir, karya kerang, menulis/melukis diatas pasir, menjaga kebersihan pantai, mengunjungi tempat pengolahan makanan dari laut yaitu rumput laut dan praktik mitigasi bencana gempa dan tsunami. Keterlibatan orang tua menjadi faktor penting dalam mendukung pembelajaran. Penelitian ini diharapkan dapat memberikan kontribusi bagi pengembangan pembelajaran kemaritiman dalam konteks pendidikan anak usia dini.

## ABSTRACT

This research aims to examine maritime learning in Early Childhood Education (ECE) to develop maritime knowledge, attitudes, and skills in young children. The research employs a qualitative descriptive method, collecting data through observations, interviews, and documentation. The participants included one school principal and two teachers from two ECE institutions in coastal areas. The findings indicate that while maritime learning has been implemented, it is not yet holistically integrated into the

curriculum but is included in semester planning with themes like aquatic animals, water transportation, fishermen's professions, and disaster mitigation. One ECE used scheduled learning resources related to the sea, while the other adjusted to the theme. Activities included learning about marine life, coastal objects, playing with sand, creating shell art, writing/painting on sand, maintaining beach cleanliness, visiting seaweed food processing sites, and practicing earthquake and tsunami disaster mitigation. Parental involvement is a key factor in supporting this learning. This research is expected to contribute to developing maritime education in the context of early childhood education.

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## 1. INTRODUCTION

Indonesia is a diverse country with numerous ethnic groups, languages, customs, traditions, beliefs, and social strata. It is the largest archipelagic nation in the world, with over 17,504 islands and a maritime area covering 5.8 million square kilometers or approximately 70% of its total territory (Ali et al., 2022). Indonesia is recognized as a maritime country under the 1982 International Law of the Sea due to its vast marine territory, many islands, and a significant population working in aquatic environments. Maritime culture serves as an identity and a distinguishing feature of Indonesia, making it essential to preserve and nurture. Based on Presidential Regulation No. 34 of 2022 on the Indonesian Ocean Policy Action Plan (2021–2025), one of its seven pillars focuses on maritime culture, aiming to strengthen Indonesia's identity as an innovative, characterful, and culturally maritime nation.

Raising awareness about Indonesia's maritime identity among young children is crucial to fostering a national character that aligns with its status as a maritime nation. This requires optimizing children's awareness of the maritime potential surrounding them. The maritime curriculum is designed to instill a love for the homeland and national pride by integrating maritime history, values, and potential into the curriculum (Nuraeni & Gunawan, 2022). In addition, it fosters the development of positive attitudes toward the marine environment, cultivating respect and concern for marine resources (marine conservation) (Hapidin et al., 2022; Nuraeni & Gunawan, 2022).

One of the government's programs related to maritime cultural policy is the development of ocean literacy content, aimed at reweaving public understanding and knowledge about the ocean and maritime affairs (Prastianto et al., 2022). However, as a maritime nation, Indonesia has not yet fully realized the positive impact of this initiative, largely because many citizens remain unaware of the vast maritime potential their country possesses (Nurissobakh, Prameswari, Utomo, & Radianto, 2018). According to a senior expert staff member in the Socio-Anthropological division of the Coordinating Ministry for Maritime and Investment Affairs, ocean literacy in Indonesia is alarmingly low almost nonexistent. This condition is attributed to the lack of marine-related issues within the school curriculum and the limited understanding of maritime topics among many teachers.

Introducing maritime education in schools by integrating it into operational curricula is one way to address this gap. Yet, as Fuad & Musa (2017) highlight, children often receive limited stimulation or information about marine environments, resulting in a lack of sensitivity toward these surroundings. Even in coastal areas, maritime-themed education in ECE remains underdeveloped and rarely implemented holistically. The theme of maritime culture remains largely underrepresented in early childhood education (ECE) curricula. Even ECE institutions located in coastal areas have yet to implement holistic approaches to teaching about marine and maritime environments (Sulistiani, 2016). A previous study conducted by Amelia & Erlina (as cited in Mawaddah et al., 2023) revealed that teachers often refrain from developing maritime-based evaluation discussions, as they find it challenging to fully conceptualize and integrate maritime themes into their teaching.

In this era of globalization, where environmental challenges are increasingly complex, early awareness of ecological issues, particularly the vital role of oceans in the Earth's ecosystem, is essential. However, learning that uses marine science as the context for discussion in Indonesian schools remains limited. Based on research conducted by Irawan (Susanti et al., 2023), it was found that knowledge about the ocean is not a focus within the school curriculum. This leads to a lack of love and concern for the sea among students and the wider Indonesian society, which negatively impacts the realization of the expected maritime development, as it lacks support from the public as a human resource base. Maritime education in schools can be a vehicle for introducing, comprehending, and fostering a love for the sea among young learners. It also strengthens nationalistic character as a maritime nation and enhances children's ability

to analyze, communicate, and make informed decisions about their maritime environment. Maritime education plays a crucial role in enhancing the skills and competencies of students, preparing them for successful careers in the maritime industry. This educational approach not only fosters technical knowledge but also cultivates essential life skills, leadership qualities, and a strong sense of community engagement. The following sections outline the positive impacts of maritime education in Early Childhood Education (ECE).

Previous studies have explored various maritime-themed learning resources, such as educational media based on local marine and fisheries environments (Gafar et al., 2024; Puspitasari & Cahyadi, 2021), beaches as learning spaces (Farida et al., 2023), maritime textbooks based on local wisdom (Nuraeni, 2023), digital picture storybooks (Mawaddah et al., 2023), and thematic approaches (Sahriana et al., 2020; Samad et al., 2023).

Based on these prior studies, the researcher conducted a study on maritime learning in the coastal area of South Garut Beach. The aim of this paper is to explore how maritime education is implemented in early childhood education (ECE) centers in the coastal region of Pameungpeuk District. Early Childhood Education (ECE) plays a crucial role in shaping children's character and early understanding of their environment. Through maritime learning, children can be introduced to the richness and beauty of the ocean, as well as the importance of preserving it.

Given the limited maritime-themed education in coastal ECE settings, this study investigates maritime learning in South Garut's coastal ECE institutions, aiming to explore its implementation and its role in developing children's character and understanding of their surrounding environment.

## **2. METHOD**

This study is a qualitative descriptive approach to explore maritime learning in Early Childhood Education (ECE) in the coastal area of South Garut. The research was conducted over three months in the Pameungpeuk subdistrict, specifically in the villages of Paas and Mancagahar, which are home to two ECE institutions already implementing maritime education.

### **2.1 Participants**

The participants were the principal and teachers from two ECE institutions. The study involved one school principal and two teachers. Although 10 teachers were initially considered, only three agreed to participate in the data collection. To simplify data analysis, participants were coded as KS (Principal) for the principal and GK (Class Teacher) for the teachers. The numbers 1 and 2 indicate the ECE institutions: GK1 (PAUD Kasih Ibu) and GK2 (Kober At-Taqwa).

### **2.2 Data Collection**

Data collection involved semi-structured interviews conducted individually with respondents for approximately 90 minutes. The interview guidelines were based on the Maritime Education Guidelines (Kemdikbud, 2020). Participants were asked four questions about maritime lesson planning, four about the maritime learning process, and one about the evaluation of maritime learning. The interviews were conducted in person at the schools and over the phone. The interview guideline consisted of several open-ended questions designed to explore teachers' understanding, implementation, and challenges related to maritime-themed learning in ECE. Topics included curriculum integration, learning materials, children's responses, and teacher training. Documentation, including images, field notes, and interview recordings, was used as observational data.

Data analysis employed thematic techniques to gain a comprehensive understanding of the collected data. The process involved data reduction, coding of interview transcripts, categorization of responses into themes, and interpretation based on the research focus. The

main themes identified included curriculum implementation, teacher capacity, learning environment, and community support.

### 3. RESULT AND DISCUSSION

#### 3.1 Result

This study was conducted in several ECE institutions in the coastal area of South Garut, focusing on the implementation of maritime-based learning. Observations and interviews revealed that most ECE institutions in this region have not fully integrated maritime themes into their curriculum as flagship programs. Readiness levels vary depending on available facilities and resources, as well as the lack of teacher training and local government support. Therefore, a deeper understanding of maritime education is needed for ECE teachers in the South Garut coastal area.

##### 3.1.1. ECE Teachers' Knowledge of Maritime Education

Interviews with principals and teachers showed that while they were initially unfamiliar with the term "maritime," they had already implemented some aspects of maritime education in their teaching. This indicates that teachers have limited theoretical knowledge of maritime education but have begun to apply local knowledge-based practices.

For instance, one principal shared:

*"Maritime? You mean about the sea? I'm not clear on how it's taught; the education office hasn't introduced it yet. Besides, the main livelihood here is farming, not fishing, and the beach is about 2 km away." (KS01:151024)*

This response suggests that while the principal does not fully understand maritime education, they are aware of and adapt to the local context. For example, since farming is the dominant livelihood, the focus is directed toward agricultural themes.

##### 3.1.2 Maritime Education Planning

Maritime education planning involves preparing teaching tools, such as the curriculum, lesson plans, and maritime-related materials. A maritime curriculum integrates maritime history, cultural values, and local potential to instill love for the homeland and a sense of national pride. Theoretically, internalizing maritime culture based on local wisdom can foster patriotism, national defense, and responsibility (Nuraeni et al., 2022).

Interviews revealed that the ECE institutions in South Garut have not adopted the "Merdeka Curriculum" (Independent Curriculum). Instead, they continue to use the 2013 Curriculum and the Indonesia Heritage Foundation (IHF) Curriculum. As one principal stated:

*"We use the 2013 Curriculum, not the Independent Curriculum." (KS01:151024)*

Another teacher added:

*"We use the IHF curriculum, which already has its modules." (GK02:151024)*

In terms of lesson planning, some institutions prepare weekly lesson plans (RPPH) as the foundation for their teaching. For example, one ECE prepared an RPPH with the theme "Aquatic Animals" and the sub-theme "Sea Fish," as well as the theme "Water Transportation" with the sub-theme "Boats." This demonstrates an introduction to maritime elements, even if the term "maritime" is not explicitly recognized.

In other ECE institutions, lesson planning follows the IHF program modules without creating separate RPPH. A teacher explained:

*"Here, RPPH follows IHF guidelines as outlined in the IHF modules." (GK02:151024)*

Assessment planning involves using a checklist technique with student evaluation indicators categorized as: 1) BB (Not Yet Developed), 2) MB (Developing), 3) BSH (Developed as Expected), and 4) BSB (Very Well Developed).

### 3.1.3 Maritime Learning Process

The maritime learning process encompasses teaching methods, learning media/resources, and maritime-themed activities. Methods include games, role-playing, and exploration activities tailored to children's developmental stages. The use of local coastal resources provides opportunities for children to engage in sensory-motor, role-play, and constructive play, aligned with the scientific approach of observing, questioning, gathering information, reasoning, and communicating (Kemendikbud, 2020). Effective maritime learning requires the integration of active methods, the use of local media, and the use of digital technology. This approach not only makes the learning process more interesting, but also relevant to the developmental needs of young children. Through active methods such as project-based learning, coastal environment exploration, and thematic games, children can gain first-hand experience that strengthens their understanding of the maritime world. A maritime learning approach that combines active methods, local media, and digital technology has been proven to support the development of children's knowledge, skills, and attitudes relevant to today's maritime world. Thus, children not only gain conceptual understanding, but also build character and a love for the marine environment from an early age.

At Kober At-Taqwa in Mancagahar Village, teachers used storytelling, singing, and role-playing methods, supported by locally sourced learning media. One teacher described:

*"We used coastal resources to introduce the sea, with outdoor activities like playing with sand, counting and writing with beach items, making boats from cardboard, and visiting a seaweed processing site." (GK02:151124)*

Activities included: 1) Introducing marine life through pictures, videos, and beach visits; 2) Crafting with natural beach materials (e.g., shells, sand), 3) Writing letters and numbers on the sand, 4) Storytelling about marine themes to instill care for the environment, 5) Collecting trash along the beach, 6) Identifying various marine elements, such as fish types and beach functions, 7) Visiting local food processing sites, such as seaweed processing facilities, 8) Creating crafts like boats from local materials, and 9) Disaster mitigation exercises for earthquakes and tsunamis. Seen in the following images (GK02:181124).

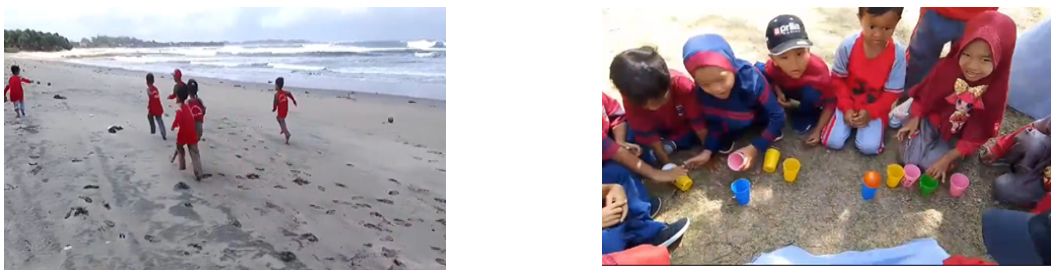


Figure 1. Sports and playing with sand materials



Figure 2. Maintaining cleanliness and writing on the sand

The interview results and figures 1 and 2 show that teachers use coastal learning resources and provide stimulation for the development of fine and gross motor skills, cognitive development, language development, development of religious values and development of art through fun learning activities.

Similarly, at PAUD Kasih Ibu in Paas Village, maritime learning followed thematic planning but used beach resources less frequently, with activities like:

- 1) Observing fishermen's activities.
- 2) Exploring coastal objects, such as coral and small beach animals.
- 3) Recognizing beaches as tourist attractions.
- 4) Visiting fish auction centers.

Collaboration with parents was essential, especially for activities like field trips, where fishermen provided information and hosted student visits. This partnership provided students with authentic learning experiences.

### 3.2 Discussion

The findings of this study highlight the importance of implementing maritime learning for young children as a means of fostering love and care for the marine environment. At the ECE level, maritime education can be introduced to shape students' personalities, attitudes, knowledge, and skills related to the sea. Examples include introducing marine animals and plants, marine transportation, coastal objects, and sea-related activities. These maritime concepts, close to the children's surroundings, support basic literacy development (Kemendikbud, 2020). The importance of maritime education applications for preschool children is gaining attention as an effort to foster a love and awareness of the marine environment. Maritime education at the early childhood education level is not only applied as an introduction, but also as a framework for shaping children's personalities, attitudes, knowledge, and skills related to the sea.

Maritime learning has not yet been fully integrated into the curriculum as a flagship program in ECE institutions in the South Garut coastal area. However, it is included in semester planning, covering themes such as aquatic animals, water transportation, fishermen's professions, and tourism. The implementation of maritime education in early childhood education can be carried out through various methods, such as project-based learning, hands-on experiences, and the use of interactive digital media. Hands-on experiences, such as fish processing or the use of seaweed as food, have been proven effective in improving children's understanding and skills related to maritime potential in their surrounding environment.

According to research by Susanti et al. (2023), five indicators define a maritime-context curriculum:

- 1) Developing marine potential through conservation, management, utilization, protection, and sustainable development.
- 2) Curriculum content based on Indonesia's reality as a maritime society.

- 3) Learning that addresses everyday maritime issues.
- 4) Developing life skills centered on students' potential, needs, and interests.
- 5) Collaborative and participatory practices in maritime-context learning.

Maritime-based education in South Garut's coastal areas is highly relevant due to the proximity of students to the sea. By introducing maritime concepts early, students gain basic environmental knowledge and cultivate love and responsibility for natural resources. Even for ECE institutions in urban or rural areas, maritime knowledge can be introduced through experiential learning that inspires maritime literacy for early childhood education. For instance, Hapidin et al. (2022) emphasized using the R-SLAMET learning model and comic-based media to create integrated, contextual, and meaningful learning experiences that inspire maritime literacy and environmental sustainability in young children.

Learning maritime culture through social interactions with adults and peers helps children acquire knowledge about coastal ecosystems and fishing lifestyles (Hapidin et al., 2022). The role of fishermen, parents, and educators is vital in guiding children through their maritime environment and fostering relevant attitudes. Arts activities, such as drawing and storytelling, serve as creative mediums for children to express their understanding of maritime culture, strengthening their connection to maritime communities (Prasetyo et al., 2019). This approach aligns with Vygotsky's sociocultural theory, which emphasizes the importance of social context and cultural practices in learning (Zhou, 2024; Flear et al., 2004). Community and family engagement are critical in fostering maritime literacy in young children (Zhou, 2024), including collaborative activities with parents to introduce maritime-based learning.

The implementation of maritime education in ECE institutions is expected to produce a generation that cares about marine environments, possesses basic maritime skills, and acts as agents of change within their communities. This also supports sustainable development in South Garut's coastal areas. The implementation of maritime education in early childhood education institutions plays a strategic role in shaping a generation that cares about the marine environment. Through maritime education, children are introduced to the nation's identity as a maritime country and are given knowledge about the potential and urgency of protecting the marine ecosystem from an early age. Maritime education is expected to inspire the younger generation to act as agents of change in their communities. Children who have received maritime education from an early age tend to have awareness, attitudes, and pride in local maritime culture and potential. This is important to support sustainable development and marine environmental conservation in the future. The success of maritime education in early childhood education is greatly influenced by the perspective, knowledge, and skills of teachers. Teachers who have broad insight and adequate competence will be able to optimally integrate maritime values into the curriculum and learning activities.

#### **4. CONCLUSION**

Maritime learning in ECE institutions in the coastal area of South Garut has been implemented by integrating it into semester planning through thematic approaches. The learning process utilizes coastal environmental media/resources with playful methods that engage children. However, there is a need to enhance ECE teacher training in preparing teaching materials and developing creative and innovative learning models.

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