

# Exploring The Seas: Engaging Early Learners With Project-Based Marine Thematic Learning

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## ARTICLE INFO

## ABSTRACT

This study delves into the effectiveness of project-based marine thematic learning for early childhood education. Employing a qualitative research methodology, it examines how integrating marine themes into project-based learning (PBL) frameworks can enhance educational outcomes for young learners. The research identifies the significance of engaging children in marine-themed projects, aiming to foster a deeper understanding of marine ecosystems, sustainability, and conservation from an early age. By analyzing participant responses and educational outcomes, the study highlights the potential benefits of this approach, including increased environmental awareness, improved critical thinking skills, and enhanced collaborative skills among early learners. The findings suggest that project-based marine thematic learning enriches the educational experience and plays a crucial role in nurturing informed, environmentally conscious future citizens.

**Keyword** Engagement, early learner, Project-based marine, thematic learning

## INTRODUCTION

The need for innovative educational methods that both engage young minds and instill a sense of environmental stewardship is increasingly critical. Traditional teaching methods may not fully capture the interest of early learners or convey the importance of marine conservation effectively. The need for innovative educational methods that engage young minds and instill a sense of environmental stewardship is underscored by (Müller & Guimbo, 2011), who emphasizes the importance of targeted messages rooted in local context. (Gough, 2017) further highlights the marginalization of marine education in school curricula, calling for its inclusion to address pressing environmental challenges. (Boyd, 2022) offers practical insights for introducing marine conservation in early years settings, while (Buchanan et al., 2019) underscores the role of specific instructional strategies in fostering environmental understanding and commitment. These studies collectively underscore the urgency of reimagining educational approaches to effectively convey the importance of marine conservation to young learners.

A range of studies have demonstrated the positive impact of project-based learning on students' attitudes and behaviors towards the environment. Project-based learning increased students' awareness and appreciation of the environment (Genc, 2015; Masdiana et al., 2020). (Kılınç, 2010) further supported these findings, showing that project-based learning can lead to positive changes in pro-environmental behaviors. (Kaldi et al., 2011) also highlighted the benefits of project-based learning in terms of content knowledge and attitudes, particularly in the context of environmental studies. These studies collectively suggest that project-based learning can be a valuable tool in promoting environmental awareness and responsibility among students. Studies in educational methodologies suggest that project-based learning can significantly improve comprehension and retention by making subjects more relatable and engaging for students. Additionally, the incorporation of environmental themes in early education has been shown to raise awareness and foster responsible attitudes towards nature from a young age.

A range of studies have explored the potential of project-based learning (PBL) to shape environmental consciousness in early learners. (Samad et al., 2023) found that while teachers faced challenges in integrating play activities with marine education, they continued to apply marine thematic learning. Henrietta (2022) highlighted the use of digital tools in PBL for environmental awareness, suggesting their effectiveness in developing students' skillsets. (Kılınç, 2010; Pan & Allison, 2010) both demonstrated the positive impact of

PBL on pro-environmental behaviors and critical thinking, respectively. These studies collectively underscore the potential of marine-themed PBL to shape environmental consciousness in early learners, despite the challenges and the need for further development in integrating critical thinking.

The effectiveness of marine-themed PBL in early childhood education, assess its impact on students' environmental awareness, and explore the potential for broader application in educational curriculums. Research Questions: Can marine-themed PBL improve early learners' awareness and attitudes towards marine conservation? The research aims to develop a comprehensive framework for implementing marine-themed PBL in early childhood education, providing educators with resources, lesson plans, and evaluation tools to integrate these themes effectively into their teaching.

This study addresses a gap in existing research by focusing specifically on early learners and the effectiveness of marine-themed PBL. By documenting its impacts, the research seeks to contribute valuable insights into the potential of thematic learning to shape environmental consciousness from a young age.

## Methods

This research is qualitative research. The objective is to analyze project-based marine thematic learning for children. The study was conducted for three months involving the principals and teachers of group B PAUD. The participants of this study were the principals, teachers, and students of group B PAUD. Participants gave consent before data collection. To make it easier to analyze interview data, the researcher gave the code KS (principal) and G (Teacher) who became participants and students (PD). The considerations are 1) The school principal has the authority to ratify the marine curriculum and implement the maritime curriculum, and 2) Teachers and students become the compilers and implementers of marine thematic education operationally in the teaching and learning process. Data was collected using a semi-structured interview instrument conducted with respondents for about 45 to 60 minutes. An interview guide was used, based on thematic learning theory. Principals and teachers of group B as participants were given 15 questions. Documentation in the form of pictures and learning videos from the teacher is used as supporting data. The data analysis used is taxonomic analysis that the results of interviews and in the form of a collection of coding will be grouped in marine thematic learning (J. Creswell, 2014; J. W. Creswell & Creswell, 2018).

## Results and Discussion

The results of project-based maritime thematic learning activities in carrying out project activities for children consist of 3 stages:

### 1. Pre-Development Activities

First, the teacher must communicate the aim of the project activity, namely the introduction of the concept of work, namely the duties of fishermen and the tools and equipment of fishermen. Project activities require several working groups. First, each class is divided into five groups according to the design made by the teacher. The teacher states what a working group is and the names of the members and chairman of each working group. The teacher indicates where the groups should work and where to take the necessary materials and tools.

### 2. Development Activities

As a stimulus, the teacher asks the children whether any of them know marine biota as in Figure 1.



**Figure 1. Creative Projects and Activities**

The answer may or may not be known. If the answer is not yet known, the teacher will invite the children to tell about marine life and its types. The teacher invites children to explore marine habitats as in figure 2.



**Figure 2. Explore ocean habitats**

Provide opportunities for virtual or face-to-face interaction to inspire curiosity and learning as in figure 3. Encourage children to ask questions and explore potential future careers related to marine science.



**Figure 3. Interaction**

Dive into the diverse world of marine life, from coral reefs to deep-sea creatures. Learn about the importance of ocean conservation and the impact of human activities on marine ecosystems. Encourage early learners to develop empathy and respect for marine animals.

### 3. Evaluation and Closing Activities

After the project activities have been completed by each group, letter decorations and figure of marine life can be installed. The project activities ended by returning the materials and tools used to their original places, cleaning and tidying the workplace, and led by the teacher, sometimes the students perform outdoor near to the beach during the peak activity, the theme of the end of the semester.

The research participants engaged with marine thematic learning through various methods and activities. Some of the ways in which they engaged include:

1. Students were encouraged to participate in projects that focused on marine-related topics, such as marine science, marine society, marine culture, and marine resources
2. Participants engaged in programs that aimed to enhance students' perceptions and understanding of the ocean, as well as promote marine education
3. Participants took part in field trips to marine environments, where they could observe marine life and engage in hands-on activities related to marine science
4. The curriculum was designed to incorporate marine topics and themes across various subjects, such as marine leisure, marine society, marine culture, marine science, and marine resources
5. Participants worked together in groups to explore marine-related topics and share their knowledge and experiences

6. Some participants engaged with interactive science centers that provided opportunities for formal and informal learning in science, including marine science
7. Participants were challenged to connect course content ideas to established ocean literacy principles, which immediately set an expectation and model for collaborative and participatory learning
8. Participants engaged in a range of cross-curricular projects and activities that supported learning about marine biodiversity and ocean literacy

Overall, the research participants engaged in a variety of marine-themed learning experiences that aimed to enhance their understanding of the ocean and promote marine education. A range of studies have explored the effectiveness of project-based marine thematic learning for children. Samad (2023) found that teachers faced challenges in integrating play activities with marine education, while (Tuaputty et al., 2023) reported that project-based learning with a laboratory approach had a positive impact on learning outcomes and critical thinking in marine biology. (Guilherme et al., 2016) observed that inquiry-based project activities in marine ecosystems led to increased scientific knowledge and student autonomy. (Yarnall & Kafai, 1996) highlighted the importance of creating learning contexts based on children's thinking, and the positive impact of project-based learning on motivation and commitment. These studies collectively suggest that project-based marine thematic learning can be effective, but may require careful planning and integration with other learning activities.

Employing a qualitative research method, the study focuses on a child-centered approach that caters to the needs and interests of children. It highlights the importance of engaging early learners with marine environments through thematic learning, aiming to foster a deeper understanding and appreciation of marine ecosystems from a young age. The principle of thematic learning emphasized in the study underlines the significance of integrating various subject areas around a central theme, in this case, the marine environment, to provide a holistic learning experience. A range of studies have explored the use of thematic learning to engage children with marine environments. Samad (2023) found that project-based marine thematic learning was effective, despite some challenges in lesson planning. (Lu & Liu, 2015) integrated augmented reality technology into marine education, enhancing student engagement and knowledge acquisition. Guilherme (2016) emphasized the benefits of inquiry-based project activities in developing scientific knowledge and skills. (Susanti et al., 2023) highlighted the importance of integrating maritime contexts into learning activities to enhance students' understanding. These studies collectively underscore the value of thematic learning in fostering a deeper appreciation of marine ecosystems among early learners.

1. The discussion about the research titled "Exploring the Seas: Engaging Early Learners with Project-Based Marine Thematic Learning" focused on various aspects of marine education and how to engage early learners through project-based thematic learning. Some of the key points discussed include (Snyder et al., 2019)
2. A non-profit education and research facility dedicated to nurturing student and public interest in marine sciences, providing opportunities for students and adults to learn about the ocean through first-hand exploration and experiences
3. A series of online marine content developed through various projects, Sea Change, Inland Sea, and Marine Strategies, which aim to educate about marine health, ocean literacy, marine species, and marine strategies
4. A model that recognizes the importance of the ocean in education activities by embracing the "Find the Blue" challenge and developing school projects centered around ocean-related themes, using project-based learning to integrate marine subjects into the classroom
5. A range of cross-curricular projects and activities that support learning about marine biodiversity and ocean literacy

Overall, the discussion highlighted the importance of engaging early learners in marine education through various project-based thematic learning approaches, utilizing resources from organizations and projects dedicated to marine sciences and ocean literacy.

## Conclusion

The research titled "Exploring the Seas: Engaging Early Learners with Project-Based Marine Thematic Learning" concludes that project-based learning (PBL) with a marine theme is effective in engaging early childhood learners. It emphasizes the child-centered approach, highlighting its importance in catering to the interests and developmental needs of children. Through qualitative methods, the study demonstrates how integrating marine themes into early education can foster curiosity, awareness, and appreciation for marine environments among young learners.

Implications of this research suggest that incorporating PBL with thematic content related to the marine environment could enhance educational practices in early childhood education. It offers a pathway to introducing young learners to complex ecological concepts in an accessible and engaging manner, potentially leading to a lifelong interest in and commitment to marine conservation. However, the study acknowledges limitations such as the scope of its qualitative approach, which might not capture the full range of impacts across diverse educational settings. Further research is recommended to explore the long-term effects of marine thematic learning and its applicability in various cultural and geographical contexts.

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