

Empirical Study of the Initial Conditions of Coastal Students of Malacca

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Abstract

The initial condition of students is one of the important factors that affect the success of the learning process. Understanding the initial conditions of students allows teachers to design learning strategies that suit the characteristics, needs, and environment of students. This study aims to describe the initial condition of elementary school students in the coastal areas of Malacca Regency which includes academic, social, cultural, environmental, and preparedness aspects for coastal disasters. The research uses a descriptive quantitative approach with the support of qualitative data. The research subjects consisted of 180 elementary school students in the coastal area of Malacca Regency. Data was collected through observation, questionnaires, interviews, and documentation. The results of the study show that the initial condition of students is influenced by the characteristics of the coastal environment, family socioeconomic background, local culture, and access to limited learning resources. Most students have first-hand experience with coastal environmental phenomena, but basic literacy and disaster preparedness skills are still in the medium category. These findings show the importance of developing contextual learning that utilizes the coastal environment as a learning resource. Therefore, teachers need to consider the initial condition of students in designing relevant and meaningful learning.

Keywords: *initial condition of students, coastal students, contextual learning, elementary schools, Malacca Regency.*

Introduction

Quality education requires a comprehensive understanding of the characteristics of students as the main subject in the learning process. Each student has a different background, experience, ability, and environmental conditions, so teachers need to understand the initial conditions of students before designing and implementing learning (Tomlinson, 2021). The initial condition of students is the basis for determining learning strategies, methods, and approaches that suit the needs of students.

In the perspective of constructivist learning theory, new knowledge is built on the experience and knowledge that students already have. Therefore, the learning process will be more effective if the teacher understands the initial knowledge that students have and relates it to the material to be learned (Bruner, 1966). Understanding the initial condition of students allows for a more meaningful and relevant learning process to their lives.

The initial condition of students includes various aspects, including academic ability, family socioeconomic conditions, living environment, local culture, learning experiences, and psychological characteristics of students (Slavin, 2020). These factors interact with each other and affect the success of students in following the learning process at school.

Coastal areas are one of the environments that have unique characteristics compared to urban and inland areas. The lives of coastal communities are generally highly dependent on marine resources and economic activities related to the fisheries sector and coastal agriculture. These characteristics also shape the learning experience and mindset of children living in coastal areas (Nugraha et al., 2022).

Malacca Regency is one of the districts in East Nusa Tenggara Province which has a fairly large coastal area and is directly adjacent to the Timor Sea. Some people living in the coastal areas of Malacca Regency work as fishermen, farmers, and small business actors. The socio-economic conditions of the community affect the access to education and learning resources owned by students (BPS Malacca Regency, 2024).

Children who grow up in coastal areas have different experiences than students in other regions. They are more familiar with environmental phenomena such as sea tides, coastal abrasion, weather changes, fishing activities, and various forms of human interaction with the coastal environment. This experience has the potential to be an important starting capital in the learning process (Suastra, 2017).

In addition to having the potential as a learning resource, coastal areas also face various challenges that can affect the development of students. Some of these challenges include

limited educational facilities, access to information technology, family economic conditions, and the threat of coastal disasters such as abrasion, tidal waves, and flash floods (UNDRR, 2022). These conditions need to be understood thoroughly so that the learning process can be designed according to the needs of students.

Various studies show that the socioeconomic background of the family has a significant relationship with the learning achievement of students. Students who come from families with better levels of education and economy tend to have wider access to learning resources and educational support (OECD, 2023). However, environmental and local cultural factors also have an important contribution to the formation of students' character and abilities.

In the context of basic education, understanding the initial condition of students is very important because it is the basis for the implementation of differentiated learning which is currently one of the focuses of education policy in Indonesia. Differentiated learning requires teachers to understand students' learning readiness, interests, and learning profiles before determining the learning strategies used (Tomlinson, 2021).

Research on the initial condition of coastal students is still relatively limited, especially in Malacca Regency. Most studies focus more on learning outcomes or certain academic aspects without looking at the initial condition of students comprehensively. In fact, understanding the initial condition of students can provide a more complete picture of the factors that affect the learning process.

In addition, the geographical conditions of Malacca Regency which have coastal characteristics provide a unique context for the development of basic education. The coastal environment is not only a place for students to live but also a learning space rich in local experience and knowledge. Therefore, the identification of the initial conditions of coastal students is important to support the development of contextual and environment-based learning.

This study aims to describe the initial condition of elementary school students in the coastal areas of Malacca Regency which includes academic, socio-economic, cultural, environmental, and coastal disaster preparedness aspects. The results of the research are expected to be the basis for the development of learning strategies that are more relevant to the characteristics of students and the environment in which they live.

Research Methods

This study uses a descriptive quantitative approach supported by qualitative data to obtain a comprehensive picture of the initial condition of coastal students in Malacca Regency (Creswell & Creswell, 2023).

The research was carried out in six elementary schools in the coastal area of Malacca Regency. The research subjects consisted of 180 students in grades V and VI who were selected using *cluster random sampling techniques* (Sugiyono, 2022).

The research data was collected through questionnaires of students' initial condition, observations of the school environment, interviews with teachers and students, and documentation. The questionnaire was used to obtain information about students' academic conditions, family socio-economic conditions, learning experiences, and disaster preparedness (Fraenkel et al., 2021).

Quantitative data analysis was carried out using descriptive statistics in the form of percentages, averages, and frequency distributions. Qualitative data were analyzed using the Miles, Huberman, and Saldaña (2019) model which included data reduction, data presentation, and conclusion drawn.

Results and Discussion

Socioeconomic Characteristics of Students

The results of the study show that most of the students come from families that work as farmers and fishermen. As many as 42.8% of students' parents work as farmers, 31.7% as fishermen, 15.5% as traders, and the rest work in other sectors. This condition shows that the majority of students come from families with income that depends on natural conditions and seasons (BPS Malacca Regency, 2024).

These findings are in line with research by Kurniawan et al. (2023) which states that family economic background affects students' access to learning resources. However, coastal family environments also provide a rich learning experience about social life and the environment that can be used in contextual learning.

Students' Early Academic Conditions

The results of the analysis showed that students' reading literacy ability was in the medium category with an average score of 68.4. Numeracy ability is in the medium category with an average score of 65.7. Most students are able to understand simple information but still have difficulty understanding more complex texts and solving reasoning-based problems (OECD, 2023).

These findings suggest that learning needs to be designed with students' academic readiness levels in mind. Teachers need to provide a gradual and contextual learning experience so that students can develop literacy and numeracy skills optimally (Tomlinson, 2021).

Coastal Environment Experience as Learning Capital

As many as 89% of students stated that they are often involved in activities related to the coastal environment such as fishing, shellfishing, helping parents in ponds, or observing beach conditions. This experience shows that students have a fairly strong initial knowledge about the environment in which they live (Suastra, 2017).

According to constructivist theory, direct experience is an important source of knowledge formation. Therefore, the coastal environment can be used as a natural laboratory that supports the learning of science, social studies, and environmental education (Bruner, 1966).

Coastal Disaster Knowledge and Preparedness

The results showed that 73% of students had heard information about coastal disasters such as abrasion, tidal waves, and flash floods. However, only 41% of students understand the mitigation measures that must be taken in the event of a disaster (UNDRR, 2022).

These findings suggest that even if students have first-hand experience with coastal environments, their understanding of disaster mitigation still needs to be improved. School-based disaster education can be one of the effective strategies to improve students' preparedness for disaster threats in coastal areas (Shiwaku & Shaw, 2020).

The Influence of Local Culture on Learning

The results of the interviews show that students are still actively involved in various local cultural activities such as mutual cooperation, traditional activities, and local community traditions. This involvement shows that local culture still has an important role in students' lives (Tilaar, 2015).

Local cultural values such as cooperation, responsibility, and concern for the environment can be social capital that supports the learning process. The integration of local cultures in learning can increase the relevance of the material and help students understand academic concepts through experiences close to their lives (Parmin et al., 2021).

Overall, the results of the study show that coastal students in Malacca Regency have great potential in the form of local environmental and cultural experiences that can be used as learning resources. However, there are several challenges that need attention, especially related to basic literacy skills and preparedness for coastal disasters.

Conclusion

The initial condition of coastal students in Malacca Regency is influenced by environmental characteristics, family socio-economy, local culture, and life experiences in coastal areas. Most students have rich experience related to the coastal environment and local culture which can be an important capital in learning. However, basic literacy skills and disaster mitigation knowledge are still in the medium category, so they need to be strengthened through more contextual learning programs.

The results of the study show the importance of using the coastal environment and local culture as a learning resource in primary education. Teachers need to develop learning that is oriented to students' real experiences so that the learning process becomes more meaningful and relevant to their lives. In addition, disaster education needs to be systematically integrated in learning to improve students' preparedness for various coastal disaster threats.

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