

## Parents's Role in Improving Numeracy Literacy of Elementary School Students through Mathematics Competitions

### Peran Orang Tua dalam Meningkatkan Literasi Numerasi Siswa Sekolah Dasar melalui Kompetisi Matematika

Rosalinda Safitri<sup>1</sup>, Harfin Lanya<sup>2</sup>, Nurillah<sup>3</sup>, Alfian Khoir<sup>4</sup>, Moh Zayyadi<sup>5</sup>  
[rl1813583@gmail.com](mailto:rl1813583@gmail.com),

Universitas Madura

#### Abstract

Mathematical numeracy literacy ability is a very important ability for students to have, because this ability is related to problem-solving both in the field of education and in everyday life. The development that occurs in early childhood can be influenced by several factors such as family, school, and environmental factors. This article was written to describe the important role of parents in increasing students' numeracy literacy in mathematics competitions. This research was conducted in Pamekasan with a qualitative research type with a descriptive approach, and the subjects in this research were elementary school students participating in Sigma 2023. The results in this research can be seen from the percentage of parents' role in increasing the numeracy literacy of elementary school students which is in the good criteria with a percentage of 79.08. Therefore, parents need to be actively involved in their children's education and provide an environment that supports their children's development so that their children's numeracy literacy skills develop as expected.

**Keywords:** Role of Parents, Numeracy Literacy

#### Abstrak

Kemampuan literasi numerasi matematika merupakan kemampuan yang sangat penting dimiliki siswa, karena kemampuan tersebut berkaitan dengan pemecahan masalah baik dalam bidang pendidikan maupun dalam kehidupan sehari-hari. Perkembangan yang terjadi pada anak usia dini dapat dipengaruhi oleh beberapa faktor seperti, faktor keluarga, sekolah, dan lingkungan. Artikel ini ditulis dengan tujuan untuk mendeskripsikan peran penting orang tua dalam meningkatkan literasi numerasi siswa dalam kompetisi matematika. Penelitian ini dilakukan di Pamekasan dengan jenis penelitian kualitatif dengan pendekatan deskriptif, dan Subjek dalam penelitian ini adalah siswa sekolah dasar peserta sigma 2023. Hasil dalam penelitian ini dapat dilihat dari presentase peran orang tua dalam meningkatkan literasi numerasi siswa sekolah dasar berada pada kriteria baik dengan presentase 79,08. Oleh karena itu, penting bagi orang tua untuk terlibat aktif dalam pendidikan anak dan menyediakan lingkungan yang mendukung perkembangan anak sehingga kemampuan literasi numerasi anak berkembang sesuai harapan.

**Kata kunci:** Peran Orang Tua, Literasi Numerasi

## INTRODUCTION

Education is a crucial pillar for the progress of a nation and a country, which can be measured and observed through a high-quality and well-structured education system. Education serves as the primary investment for

future generations and as a decisive tool for achieving advancement in all aspects of life, enabling individuals to make choices and lead a life that aligns with human dignity. It is also an essential instrument for every nation to enhance its competitiveness in political, economic, legal, cultural, and defense regulations within the global societal framework, ultimately fostering the development of its education system (Putri & Aji Pradana, 2021; Rahayu, dkk., 2023).

Education is a fundamental and well-planned effort to create a learning environment and learning process that actively enables students to develop their potential, fostering spiritual and religious strength, self-discipline, intelligence, general knowledge, and the skills necessary for their role in society. Primary school serves as the starting point of formal education in Indonesia. Regarding primary education, the Directorate General of Primary and Secondary Education (Dirjen Dikdasmen), through Circular Letter No. 2931/C/1/1993, emphasized the need to improve the quality of teaching in three fundamental skills: reading, writing, and arithmetic (Lestari, 2024; Agustina & Moh Zayyadi, 2023; Ruli, 2020; Susilawati, dkk., 2021).

Mathematics is a fundamental science that plays a crucial role in the development of science and technology. As one of the subjects taught in primary schools, mathematics is often perceived as a daunting subject and even becomes a source of fear during the teaching and learning process. Consequently, the expected achievements in mathematics education remain far from expectations. This is evident from the lower mathematics scores compared to other subjects. Meanwhile, one of the essential requirements for achieving 21st-century skills is mathematical literacy, often referred to as numeracy (Hartanti, 2019; Lanya & Aini, 2019; Zain, dkk., 2017).

Numeracy, also known as numerical literacy or mathematical literacy, is an individual's ability to formulate, apply, and interpret mathematics in various contexts. It includes the capacity for systematic reasoning and the use of concepts, procedures, and facts to describe, explain, or estimate phenomena or events (Ekowati dkk., 2019). Numeracy skills are essential for students, as they are closely related to solving mathematical problems in everyday life (Pangesti, 2018; Basri dkk 2021).

Many factors influence mathematics learning achievement, one of which is low student motivation. This may be due to students' lack of curiosity about mathematics, as well as external factors such as peers, family, and an unsupportive environment for learning mathematics (Anderha & Maskar, 2021; Standsyah, dkk., 2019).

According to Irma et al. (2019) in their research, parental involvement in early childhood education requires synergy in various program efforts and activities, adjusted to the analysis of challenges faced by parents, including social factors, family structure, family development stages, and role model

factors. Therefore, it can be said that the family plays a significant role in the education process of children.

Parental attitudes play a crucial role in developing a child's potential, including respecting their opinions and encouraging them to express them (Azmi dkk., 2024; Dinda, 2024). Parents should also provide opportunities for children to engage in reflection, daydreaming, and thinking, as well as allow them to make decisions independently and encourage questioning. Parents should reinforce the idea that they highly value their child's efforts, which motivates the child to develop further, for example, by offering praise and other forms of encouragement.

## **METHOD**

The type of research used is descriptive research with a quantitative approach, which is related to and addresses the research problem systematically, accurately, and up-to-date. This research is descriptive because the data obtained consists of descriptive data from individuals or behaviors being observed, which can be in the form of written texts or verbal statements. (Creswell, 2012; Creswell John and Creswell David, 2023; Nowell, dkk., 2017) The determination of parental motivation is based on the quantity of responses from the questionnaires provided to the parents. The ultimate goal of this research is to describe the role of parents in enhancing students' numeracy literacy. The data analyzed includes the results from the parents' questionnaire responses and interviews with the guardians/parents of the students participating in SIGMA 2023.

The interview instrument used is a semi-structured interview with the guardians/parents of the students participating in SIGMA 2023, focusing on the role of parents in enhancing the numeracy literacy of primary school students through mathematics competitions. From these responses, comprehensive information will be obtained regarding the motivation provided by parents to the students.

The subjects of this research are the 1st, 2nd, and 3rd place winners of the SIGMA 2023 competition at the primary school level 1. In this study, the subjects are selected using purposive sampling technique, which is based on specific considerations that are deemed to provide maximal data. The data source in this research is primary data, which is directly collected by the researcher from the individuals involved. The primary data in this study consists of the completed questionnaires provided by the researcher, followed by interviews with the guardians/parents of the 1st, 2nd, and 3rd place winners of the SIGMA 2023 competition at the primary school level 1.

This research is descriptive research using a quantitative approach. Descriptive research is a type of research that does not compare variables across different samples or seek to find relationships between variables (Irwan,

dkk., 2019). This research was conducted in February 2023 at Himpaudi Rumbai. In this study, the variable to be described is the role of parents in relation to the numeracy literacy of students. Data collection in this research was carried out using questionnaires. The data analysis technique for the results of this study is conducted using the following formula :

$$Value = \frac{\text{Score Obtained}}{\text{Maximum Score}} \times 100\%$$

To determine the assessment criteria for the observation results, four evaluation categories are established: good, fairly good, not good, and poor (Arikunto, 2019). For further clarification, it is outlined as follows:

- a. It is considered "good" if the percentage is between 76% - 100%.
- b. It is considered "fairly good" if the percentage is between 56% - 75%.
- c. It is considered "not good" if the percentage is between 40% - 55%.
- d. It is considered "poor" if the percentage is less than 40%.

## RESULTS AND DISCUSSION

This research was conducted in Pamekasan. The subjects of this study are the parents of primary school students who participated in SIGMA 2024 Level 1, totaling 3 individuals, who are the guardians of the 1st, 2nd, and 3rd place winners at the primary school level 1. The results of the questionnaires obtained are as follows:

**Table 2. The Role of Parents in Enhancing Primary School Students' Numeracy Literacy**

No	Question	Response	
		Percentage	Criteria
1	Parents assist when the child faces difficulties in learning	91,67	Good
2	Parents assist when the child faces difficulties in doing homework	83,33	Good
3	Parents give advice to the child to study diligently	100	Good
4	Parents buy the necessary stationery for the child	100	Good
5	Parents reprimand the child when they are not putting in effort while studying at home	84,62	Good
6	Parents reprimand the child when they do not study at night at home	53,85	Not Good
7	Parents accompany the child while studying at home	69,23	Fairly Good
8	Parents ask about the test scores when the child arrives home	84,62	Good
9	Parents check the test scores when the child arrives home	84,62	Good
10	Parents ask the child if there is any homework	100	Good
11	Parents ask the child about the activities they did at school	83,33	Good
12	Parents manage the child's study time	66,67	Fairly Good
13	Parents manage the child's playtime	66,67	Fairly Good
14	Parents instruct the child to attend additional lessons at school	66,67	Fairly Good
15	Parents praise the child when they receive good	100	Good

	grades		
16	Parents give gifts when the child receives good grades	91,67	Good
17	Parents scold the child when they receive poor grades	50	Fairly Good
18	Parents give punishment to the child when they receive poor grades	33,33	Poor
19	Parents ask the child what stationery they need	75	Fairly Good
20	Parents provide a dedicated desk for the child to study	83,33	Good
21	Parents turn off the television to avoid distractions while the child is studying	100	Good
22	Parents talk loudly, causing a disturbance while the child is studying	33,33	Poor
23	Parents allow the child to choose any room to study in order to make them comfortable	75	Fairly Good
24	Parents take the child to the health center/doctor when the child is sick	100	Good
25	Parents ask the child to rest when they are sick	100	Good
	<b>Average</b>	<b>79,08</b>	<b>Good</b>

Based on the table above, there are several questions that received a 100% response rate. When classified, of the 7 questions with a 100% response rate, there are several types of parental participation/roles in relation to the child's achievement, including: (1) physical participation, where parents provide physical attention to the child through physical support, as seen in questionnaire items 4, 21, and 24; (2) emotional participation, where parents provide emotional support to the child, as seen in questionnaire items 3, 15, and 25; and (3) cognitive participation, where parents provide cognitive support, such as helping the child with homework, as seen in questionnaire item 10. All types of participation/roles performed by parents toward their children will influence the child's learning achievements. This aligns with the research conducted by (Putri & Aji Pradana, 2021; Rizkia Nurul Wafa & Ibnu Muthi, 2024; Sariamas dkk., 2023) The participation of parents in the academic achievement of elementary school students.

The participation/role of parents in improving numeracy literacy is essential in the learning process of children. The research findings show that the average role of parents in the survey falls into the good category with a percentage of 79.08. This aligns with the research (Prastyaningsih, 2021; Putri & Aji Pradana, 2021; Rizkia Nurul Wafa & Ibnu Muthi, 2024; Sholihah dkk., 2021; Hartanti, 2019; Lanya, dkk., 2018; Leonangung, dkk., 2021; Romlah, dkk., 2019) hat if the motivation of parents is good, the child's achievement will improve. There are 15 indicators in the good category, 7 indicators in the fairly good category, and 1 indicator in the poor category, while in the poor category, there are 2 indicators.

## **CONCLUSION AND SUGGESTIONS**

Based on the research findings, it can be concluded that the role of parents in enhancing the development of numeracy literacy among elementary school students is generally categorized as good, with a percentage of 79.08. There are 15 indicators in the good category, 7 indicators in the fairly good category, and 1 indicator in the poor category, while in the very poor category, there are 2 indicators. Therefore, the motivation of parents has a significant impact on the academic achievement of students. The motivation and participation of parents have a significant impact on the academic achievement of students. Therefore, parents should actively participate in their children's education, both physically, emotionally, and cognitively, so that children can achieve academic success in line with expectations.

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