

# Perspectives of teachers and parents on mathematics learning in early grades student during school from home

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*Abstract* - This research was motivated by necessary to analyze the extent which the perspectives of teachers and parents on learning mathematics in the first grade of elementary school during school from home at the covid-19 pandemic. The purpose of the study to see the process of implementing mathematics learning during the pandemic-19 period and to explore deeper information about respondents' perspectives on learning mathematics during school from home. The subjects in this study are the teachers and parents of early students at the State Elementary School 10 Metro Timur, Metro City, Lampung. The method used in this research is descriptive qualitative. Data obtained through observation and interviews. Based on the results of the study, information was obtained that teachers and parents had clashes in interpreting and implementing mathematics learning in lower classes during school from home. In addition, various obstacles experienced by teachers and parents were also found in the implementation of mathematics learning for children in early grades during School From Home.

*Index Terms* - Teachers and Parents Perspectives, Mathematics Learning, School From Home

## INTRODUCTION

The Corona Virus Disease outbreak in 2019 (Covid-19) was designated as a world outbreak by WHO on March 11, 2020. Since then, various issues and research related to Covid-19 have continued to grow and develop, both in terms of health, economy, social, culture to education (Sinha et al., 2020; Humeniuk et al., 2020; Guan et al., 2020; Wren-Lewis, 2020; Ozili, 2021; Figliozzi & Unnikrishnan, 2021; Li et al., 2021; Byrnes et al., 2021; Huynh, 2020; Noori, 2021; Al-Mawee et al., 2021; Top & Cam, 2021). In terms of education itself, the topic that is being discussed during the COVID-19 pandemic is school from home (SFH), namely: programs that migrate the learning process from school to home (Basilaia & Kvavadze, 2020; Papers, 2020; Liu et al., 2021; Suryaman et al., 2020; Bubb & Jones, 2020; Support et al., 2020; Van Lancker & Parolin, 2020; Nicola et al., 2020; Xie, 2020).

SFH was initiated in terms of considering the health and safety of students, educators, education staff, and the community. In the implementation of SFH, teachers and students carry out online learning from their respective homes. The choice of SFH must be taken considering the educational process must continue. Through education, the nation's development goals will be achieved. Education that supports future development is education that is able to develop the potential of students starting at an early age.

Early childhood education is carried out as an effort to assist children in increasing their various potentials. NAEYC (National Association for the Education of Young Children) states that early childhood education begins at birth until children are eight years old [22], included in this study were grade 1 elementary school students who were still in the early age range. In elementary school education, there are several subjects that must be mastered by students, including mathematics. Mathematics as one of the basic subjects at every level of formal education has a very important role in education to equip children with the ability to think logically, analytically, systematically, critically, and creatively, as well as the ability to work together. Mathematics is a central science in everyday life and is introduced from an early age (Özdoğan, 2011; zkan & Baydar, 2021; Carbon, 2019; Linder & Simpson, 2018). Whether we realize it or not, our lives and our children cannot be separated from mathematics. So many of our activities that use mathematics in everyday life.

The term mathematics itself comes from the Latin "mathematics" which was originally taken from the Greek "mathematike" which means to study. The word mathematike is related to other words that are almost the same, namely mathein or mathenein which means learning (thinking). So, based on the origin of the word, then mathematics means knowledge gained by thinking (reasoning). Mathematics emphasizes activities in the world of ratios (reasoning), not emphasizes the results of experiments or observations. Mathematics is formed because of human thoughts, which are related to ideas, processes, and reasoning [27].

Mathematics has a great influence in human life. However, the facts seen in the field show that people think mathematics is a very heavy and difficult science to learn, the majority of students do not like mathematics (Anditya & Murtiyasa, 2016; Jarmita, 2014). Likewise with the views of parents and teachers in teaching children mathematics. many parents feel uninformed about current educational practices and how they can be more involved with their child's learning [30]. Meanwhile, many teachers feel uncomfortable dealing with some of the psychological aspects of teaching mathematics, including feelings of anxiety about mathematics [31]. Teachers together with parents must believe and convince children that children are able to develop their

mathematical abilities, because mindset and point of view play a key role in children's math achievement [32]. Children who believe in mathematical abilities with a rigid nature are at a disadvantage compared to children who believe they are capable of developing their mathematical abilities. Teachers must consider the influence of the active components of mathematics learning in planning effective instruction and parents need to provide assistance as instructed in math assignments given by teachers to children during school from home. The perspective of learning mathematics from the point of view of teachers and parents during school from home needs to be addressed towards concrete learning and in a fun situation for children.

Perspective is a conceptual framework, a set of assumptions, a set of values and a set of ideas that influence a person's perception so that it will ultimately influence a person's actions in certain situations. Everyone has their own way of seeing an object. Each of these points of view will produce opinions about different objects. The perspective of teachers and parents in learning mathematics during school from home affects behavior so that the teaching and mentoring style for children becomes better or even worse.. This point of view will vary according to the understanding formed from various factors such as education, family social status, environmental culture, intelligence, and work.[33]. The treatment given to children will be in line with the conceptual framework they have. If the point of view of learning mathematics that is embedded in parents and teachers is not in accordance with the concept of child development, then the treatment or activities given to children are also not in accordance with their development.

Starting from the perspective where teachers and parents respond to learning mathematics for low-grade students, it will have an impact on the stimulation and teaching approach and guidance given to children in the design of mathematics learning programs. This is very crucial for optimizing children's understanding of mathematical concepts. Therefore, this study aims to explore the perspectives of teachers and parents on children's mathematics learning in lower grades, especially in the Metro area, Lampung.

## METHOD

The method used in this research is descriptive with a qualitative approach. The data presented is presented qualitatively without giving treatment, and intends to understand the phenomenon of what is experienced by the research subject holistically by means of description in the form of words and language in a special natural context [34]. Thus, this research describes, explains and interprets the object as it is. The qualitative approach used is used to analyze the implementation and the point of view of learning mathematics in the first grade of elementary school during school from home through interviews and observations with teachers and parents.

This research was conducted to obtain a complex and comprehensive picture of the real situation and analysis of sentences obtained from informants (teachers and parents). The study was conducted at the homes of students who attend Elementary School 10 Metro Timur while observing and interviewing parents. The research was also conducted at the State Elementary School 10 Metro Timur when observing and interviewing Class 1 Elementary School teachers.

The time of the research was carried out in the odd semester of the 2021/2022 academic year with the research subjects being two grade 1 elementary school teachers and 10 parents of first grade elementary school students. The object of this research is the perspective of implementing mathematics learning in the first grade of elementary school during school from home during the Covid-19 period from the perspective of teachers and parents. This study uses data collection methods in the form of observation and interviews. Observational data collection was carried out by observing directly the implementation of mathematics learning carried out by students and parents at home through instructions given by online teachers.

Meanwhile, data collection through interviews in this study was given to parents of first grade elementary school students to dig deeper into how parents respond to children when learning mathematics during school from home in first grade, while from the teacher's side to find out how to the teacher designs mathematics lessons that are given online to students during school from home in the first grade of elementary school.

Interview questions lead to items of understanding about mathematics learning, design of mathematics learning during school from home, expectations for the implementation of mathematics learning, challenges, and difficulties and obstacles faced by parents and teachers in children's mathematics learning during school from home. The data obtained were analyzed descriptively qualitatively.

## RESULTS AND DISCUSSION

The perspective of parents and teachers in this study is a process of organizing or interpreting a response or perspective of parents and teachers in interpreting and interpreting the information obtained on learning mathematics during school from home during the covid-19 pandemic. Information seen, heard, and felt will be concluded into a view or understanding. The perspectives of parents and teachers referred to in this study are in the form of perspectives or responses of parents and teachers in interpreting or interpreting the information they get.

The presentation of information related to the perspective of learning mathematics in lower grades during school from was collected from 12 informants consisting of 2 teachers and 10 parents of parents of grade 1 elementary school students in providing their opinions and explained through the following discussion.

A. *Implementation and design of mathematics learning during school from home*

In general, the implementation of mathematics learning carried out at home under the guidance of parents tends to be a mechanistic approach that emphasizes the 'drill and practice' process, so that children are trained to work on problems procedurally, like mechanics or machines. Parents are more likely to emphasize the results obtained by children so that children get good grades so they pay less attention to the meaningful learning process of mathematics. In teaching mathematics, parents prioritize memorization rather than understanding real mathematical concepts so that children do not appreciate or understand mathematical concepts, children still have difficulty applying mathematics in everyday life.

The mathematics learning process designed by the teacher at school from home is textbook because the teacher relies on the WhatsApp application to send photos of assignments sourced from LKS and teacher's printed books for students to work on. Based on the results of the teacher's narrative and checking documents, the questions given are quite related to the children's daily lives, but the teacher cannot monitor how parents relate and explain the questions given in the children's daily lives. During school from home, teachers and students only meet once a week to collect assignments.

Ideally in learning mathematics, such as in number material, teachers can instill a very simple deductive mindset, that is, children are invited to manipulate concrete objects such as rocks, leaves, or marble seeds to introduce the concept of numbers. On this occasion, children are asked directly the number of numbers from a set of concrete objects. In addition, the teacher can take inductive steps or inductive thinking patterns on students through introducing the concept of numbers more or less by showing various pictures, then pointing to various numbers, by saying "less oranges than apples". The teacher can show pictures of other objects by saying "more papayas than mango". In this case the child can catch understanding intuitively by visual, so that the children can distinguish more and less numbers.

One of the factors that must be considered in designing and implementing mathematics learning is to realize that the stage of thinking development of elementary school students (7-12 years) is in the concrete operational range [35]. At this stage, students' thinking operations are not yet formal and are still limited to concrete objects that students must manipulate during the learning process. On the other hand, one of the characteristics of mathematics is that it has abstract objects. This abstract nature causes many students to have difficulty in mathematics. Therefore, in designing and teaching mathematics to children, a contextual approach is needed that is in accordance with the learning development phase of early elementary school age children. In addition, also explained by Bruner [36] that the internalization process in learning will occur optimally if the knowledge learned is learned in three stages, namely the enactive model, where at this stage the presentation is done through the actions of children directly involved in manipulating objects, children gaining knowledge through concrete objects in real situations; the iconic stage model, where in this stage knowledge is represented in the form of visual images, pictures, or diagrams that describe concrete activities; the symbolic stage model, where at this stage the child is able to use notation without dependence on real objects.

#### *B. Difficulties and obstacles faced by parents and teachers in learning mathematics for children during school from home.*

Distance Learning has advantages and disadvantages from a parent's perspective. Parents act as companions for children in learning, facilitators and motivators for children. Difficulties and obstacles experienced by parents, among others; mathematics learning methods that must be used in accompanying children to study, do not understand mathematics learning materials that must be given to children, signals that sometimes go up and down, pulses that must be filled when the data package has run out (financially), do not understand IT, difficult to manage children when studying, having to work all day so that they cannot accompany children to study, do not understand how to make children understand how to learn mathematics, and parents think mathematics is difficult for children to learn. In addition, parents assume that the teacher's explanation is not understood by the students.

Several other things that become obstacles according to the perspective of parents in implementing learning during school from home during the Covid-19 virus pandemic, namely the lack of understanding of the material in children because the teacher only gives assignments in the form of questions, there is no practice for understanding mathematics, parents want their children to study at school while studying at school will be at high risk for the spread of covid-19, children are addicted to playing online games on cellphones because assignments are sent via smartphones, the material provided by the teacher is limited so that students do not understand the material being taught, the results children's learning is not optimal, and parents feel overwhelmed in guiding children to learn mathematics during school from home.

Parents as informants in this study said that school from home harms parents and children's learning development. Parents provide facilities to study and assist children in completing math assignments from the teacher, but parents do not understand how to convey math material to children. Math problems in first grade are easy and can be done quickly by parents, but in terms of child development, children do not get knowledge of the tasks given because parents directly do their children's assignments without giving understanding. Parents do not teach mathematics to children, but do their children's math assignments during school from home.

From the teacher's perspective regarding the implementation of mathematics learning during school from home during the Covid-19 virus pandemic, they are; some parents are considered not to monitor their children and lack of communication between children with parents, this is because there are some students who do not do math assignments well. On the other hand, for most of the students the score was always good, namely 100. The teacher said that the teacher did not know for sure how the students did their assignments, whether they really received guidance from their parents which had an effect on the good achievement of students' learning outcomes in mathematics, or assignments. Assignments are given to be done directly by parents so that the student's score is always 100. As stated by the teacher as follows: *"I had problems with math assessments during school from home because I couldn't monitor the skills of each student individually. Children did more assignments with parental guidance, so*

*that automatically their grades tended to be all correct or almost always get grades 100, based in my assumption it is because the parents did the work”*

In carrying out mathematics learning during school from home the teacher cannot monitor student development, student assessment is only a cognitive assessment. MAAssessing and implementing mathematics learning during school from home is felt to be more difficult, because according to the teacher, mathematics requires the use of formulas that need to be taught directly to students.

The schedule for learning mathematics during the pandemic during school from home runs according to the usual school schedule, but there are many obstacles faced by teachers and parents during learning. Learning mathematics during school from home is considered less effective because of the many obstacles faced during learning.

From the discussion above, it appears that the perspectives of teachers and parents clash with each other, teachers expect proper guidance from parents while parents want their children to be guided by teachers at school. The respondents, both teachers and parents, did not feel comfortable in learning mathematics during school from home.

Learning mathematics during school from home raises a problem because of the many obstacles and difficulties experienced by both teachers, students, and parents. However, this can be overcome by good cooperation between teachers and parents in interpreting children's mathematics learning. Mathematics becomes fun for children if it is interpreted as a child's activity. As the important view of Freudenthal, namely (1) mathematics must be connected to reality; and (2) mathematics as human activity”[37]. Freudenthal also thought that Mathematics is not a subject that must be passed on by educators (both teachers and parents) to children like a mechanistic approach, but in learning mathematics children must be guided so that they get the opportunity to 'rediscover mathematics' by doing so.[38]. Mathematics is an activity that is close to children, so in learning mathematics children need a real context, children can be introduced to mathematical concepts through objects around the home.

Teachers need to design an orderly and directed mathematics learning design. This is a challenge for a teacher in implementing policies so that children stay focused on learning mathematics. In addition, teacher creativity is required to make learning designs as attractive as possible so that children can continue to follow learning and produce maximum learning outcomes.

The expectations of parents regarding learning mathematics during school from home are as follows; more proportional in giving math assignments, the tasks given should be accompanied by an explanation to convey it to the children, the tasks given by the teacher should be easily accessible to parents, the existence of a home visit from the teacher to teach mathematics to children directly, In addition, parents also hope that the teacher does not only give assignments but provide notes for how parents teach their children.

Meanwhile, the hope of the teacher is that parents will continue to motivate and assist their children in learning mathematics. The teacher wants students to have a correct understanding of mathematical concepts, the results of the work of math assignments are carried out by the students themselves, not done directly by the parents as a whole. The teacher wants the mathematization process to occur in students, not just good grades obtained. Children's activities that are supported by parents will certainly increase the effectiveness of their children's learning. Assistance from parents in learning will make a high enough contribution to the child's ability (Pezdek et al., 2002; Owusu-Fordjour et al., 2020; Muir, 2012)

## CONCLUSION

From the parent's and teachers perspective, math is a difficult science to teach children. Especially during school from home. Mathematics is a never ending dilemma for teachers and parents. Not a few parents who do not understand how to teach mathematics to children. The change in the learning process from school to home requires teachers to be more creative and innovative in designing learning from home and this situation demands the role of parents in assisting children to study at home. Teachers need to design an orderly and directed mathematics learning design. In the learning design made by the teacher, it should contain instructions on how parents should provide guidance to children when accompanying learning mathematics. Parents and teachers also need to realize that the real learning at the first grade level of elementary school is early childhood learning services, namely learning through play. Recommendations are addressed to teachers and parents in developing children's math skills in a fun way. Parents and teachers need to work together to build children's understanding in learning mathematics, including by being able to provide a varied learning environment for children's learning during the school from home.

Learning mathematics during school from home requires teachers to be able to further improve the way of educating in all conditions. Learning mathematics during school from home requires the support of not only teachers but also the readiness of parents and children. The cooperation of teachers and parents as a place for children's learning must be in line so that children gain maximum knowledge.

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