



**JOURNAL OF CONTEMPORARY
ISLAMIC PRIMARY EDUCATION**

Vol. 1, No, 1, 2022 Page 12-16

<https://zia-research.com/index.php/jcipe>

**Efforts to Improve Students' Understanding
in Learning Mathematics Through the RME Approach**

Nita Anggriya Lawati¹, Cahya Hatia Ananda²

¹State Islamic University of North Sumatra Medan, Indonesia

²State Islamic University of North Sumatra Medan, Indonesia

Email : nitanitaanggriyalawati@gmail.com¹; cahyahatya10@gmail.com²

ARTICLE INFO

Article history

Received 12 June 2022

Revised 09 July 2022

Accepted 27 August 2022

Keywords

Mathematics

Flat Build Learning

RME approach

ABSTRACT

This article aims to find out how learning mathematics in the "Bangun Datar" material with the RME (Realistic Matematika Education) approach to find out the improvement of students' mathematics learning outcomes using the RME approach on data building material. The instrument used in this study is the observation of the steps in the RME approach, namely relating, experiencing, applying, Cooperating and Transferring. At this time, RME supports learning mathematics in "flat-up" material. With this approach, students are expected to be able to be active in the RME system or approach in the learning process. In this learning, students think creatively, because mathematics provides new information for students in understanding the concept of "flat wake".

ABSTRAK

Artikel ini bertujuan untuk mengetahui bagaimana pembelajaran matematika pada materi "Bangun Datar" dengan pendekatan RME (Realistic Matematika Education) mengetahui peningkatan hasil belajar matematika siswa menggunakan pendekatan RME pada materi bangun data. Adapun instrumen yang digunakan dalam penelitian ini adalah observasi langkah langkah dalam pendekatan RME, yaitu *Relating* (mengaitkan), *experience* (mengalami), *applying* (mengaplikasikan), *Cooperating* (bekerjasama) dan *Transferring*. Pada masa ini RME yang mendukung pada pembelajaran matematika dalam materi "bangun datar". Dengan adanya pendekatan ini, siswa diharapkan mampu bersikap aktif dalam sistem atau pendekatan RME dalam proses pembelajaran. Dalam pembelajaran ini, siswa berfikir kreatif, dikarenakan matematika memberi informasi baru bagi siswa dalam memahami konsep "bangun datar".

INTRODUCTION

Understanding mathematical concepts is an ability that underlies other mathematical abilities. Learning concepts is the "building stone" of thinking and is used as the basis for higher mental processes to formulate principles and generalizations (Novitasari, 2016: 8-18). Students must know the relevant rules based on the concepts to solve problems. Therefore, developing the ability to understand mathematical concepts is one of the learning objectives that must be achieved.

Mathematics is a science that studies algebra, arithmetic, biomatrix and analysis of shapes, structures, quantities and concepts related to one another. The development of science and technology is growing rapidly along with the times. Almost all fields of science that use mathematics in it and not only science that uses mathematical concepts, but in everyday life also

require mathematics. Learning mathematics in elementary schools is one of which is to train students to be active and creative in solving existing problems (Mawaddah & Maryanti, 2016).

Mathematics serves to develop the ability to communicate ideas through mathematical models in the form of mathematical equations, diagrams, graphs, or tables. Thus, it can be said that mathematical structures are closely related so that the truth is consistent, mathematics is also a material that seeks relationships between structures that are related to each other. Mathematics is also a lesson in which there are interrelated concepts and principles, these concepts and principles if not mastered properly will cause difficulties for students in learning them (Jeheman, *et.al.*, 2019: 191-202).

Realistic mathematics Education (RME) is a learning theory in mathematics education. The RME theory was first introduced and developed in the Netherlands in 1970 by the Freudental Institute. Freudental in Yulianty (2019: 60-65) suggests that mathematics is a form of human activity. In this article, the material presented is the concept of flat shapes regarding understanding the concept of building squares, rectangles, parallelograms, circles, kites, trapezoids, rhombuses and others, through the RME method or Realistic Mathematics Learning (PMR) with By using teaching materials, it is hoped that it will further improve students' understanding of mathematical concepts in flat-shaped materials.

METHODS

This research uses a qualitative approach with the method of literature study or literature study (Assingkiy, 2021). The literature sources that are used as references are articles, books, and other scientific literature on learning mathematics with "flat-up" material through the RME approach which can be accessed directly from bookstores or online access via Google Scholar or Google Scholar.

FINDINGS AND DISCUSSION

The mathematical material presented is also very procedural, students have to memorize the formulas for the angles of planes and quadrilateral formulas to answer questions (Purwanti, *et.al.*, 2016: 115-122). Students experience different abilities in learning, some are difficult in understanding learning, while others are only smart and have an attitude in memorizing the formulas.

Realistic mathematics Education (RME) or realistic mathematics learning has the characteristics of PMR, as follows: (1) using contextual problems, with this learning using contextual problems as a starting point for learning; (2) using a model, with the term model relating to the situation model and mathematical model developed by the students themselves; (3) using student contributions. Great contributions to the teaching and learning process are expected from students; (4) interactivity, for students and teachers is fundamental in RME or PMR; and (5) integrated with other topics (Sari & Yuniati, 2018: 71-80).

The Realistic Mathematics Education (RME) approach is a learning concept that helps teachers relate the material being taught to students' real-world situations, and encourages students to make connections between their knowledge and its application in their lives as family and community members (Hidayat, *et.al.*, 2020: 106-113; Nurfauziah, *et.al.*, 2019: 388-397).

Mathematics learning material about flat shapes is difficult to understand, because the lessons are separated from one shape to another. Then the application of the concept of mathematical understanding has not gone well, there are still many who apply direct learning based on previously known formulas. The availability of existing teaching materials is not enough to help students learn actively, because the existing teaching materials are in the form of subsidized textbooks from the government. Then the material being studied is not in the order that it should be studied, such as fractions lessons which are directly applied to grade 2 student books, so that students' knowledge becomes abstract and many do not understand the basic concepts of the learning. Then it is not uncommon for teachers to work twice to make

worksheets independently so that students are more active in the mathematics learning process (Tanjung, 2019).

In their daily life, mathematics learning has never used printed teaching materials in the form of modules. The implementation of the 2013 curriculum of scientific learning and learning methods adapted to the material (Sutisna, *et.al.*, 2016: 31-40). However, teachers rarely use more varied learning approaches, including active, innovative, creative, effective and fun learning approaches. Then students are also less enthusiastic in learning mathematics. This research uses the learning media of rectangular shape angles:

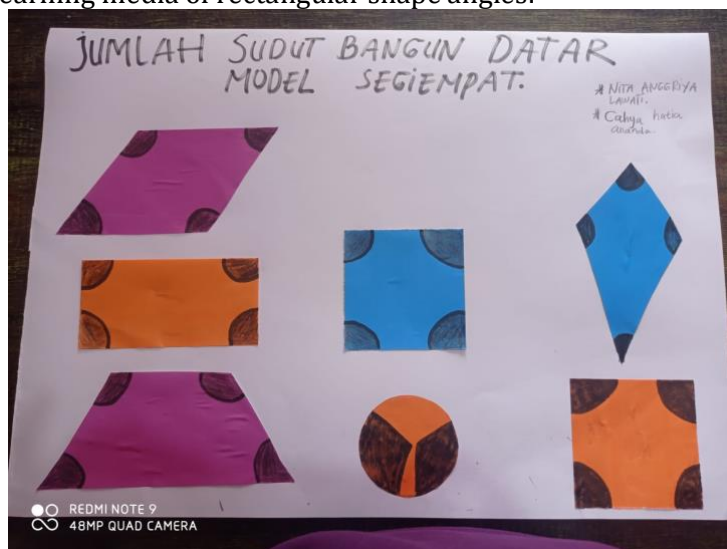


Figure 1. The concept of building a flat square.

Where flat shapes are one of the most important subjects both in geometry lessons, and their use in everyday life. Flat shape is very much needed as a prerequisite material for studying spatial structure (Wulandari, *et.al.*, 2019: 143-152). This is acceptable because when studying blocks or cubes, for example, students will use points, lines, line segments, angles, rectangles, and squares. In everyday life, flat shapes are very common, for example, classroom door frames and the sides or edges of blackboards.

This material is divided into two learning activities. Learning activity 1, which is successively about lines, angles, and curves. Learning Activity 2, which is about polygons, circles, and tangrams. The general competence that is expected after studying this material is that you are skilled in doing flat-shaped learning according to the elementary school curriculum.

Specific competencies that will be achieved after studying this material are that you are skilled at: (1) explaining lines, angles, and curves; (2) explain how to solve problems about lines, angles, and curves; (3) explaining wrong concepts about lines, angles, and curves if any from the perspective of teachers and students; (4) conduct line, angle, and curve learning to elementary school students using the right media and approach; (5) evaluate student learning outcomes about lines, angles, and curves; (6) explain polygons, circles, and tangrams with their properties; (7) explain how to solve problems about polygons, circles, and tangrams with their properties; (8) explain the concepts of polygons, circles, and tangrams with their properties - if any - from the perspective of teachers and students; (9) learning polygons, circles, and tangrams with their characteristics to elementary school students using the right media and approach; and (10) evaluating student learning outcomes about polygons, circles, and tangrams with their properties (Budiono & Suhendar, 2019: 488-495).

This ability is very important for you to be able to teach about flat shapes to students according to the elementary school curriculum. To study this material should be done in the form of group study. Study groups should consist of three or four people. Things that are not understood should be noted and asked as questions when the tutorial is held. You are required

to read and understand all the concepts presented in this module well. To make things easier for you, it's a good idea to have a ruler, compass, pencil and paper ready. In addition, do all the tasks and exercises contained in this material as well as possible, so that you have a good success in studying this material.

CONCLUSION

Based on the observed results, it can be concluded that learning mathematics on flat-shaped materials using the RME or PMR approach as well as the addition of this media, gets appreciation from students because the learning material is easier for students to understand, both during the learning process and in doing the tasks given by the teacher. teacher.

REFERENCES

- Assingkily, M.S. (2021). *Metode Penelitian Pendidikan: Panduan Lengkap Menulis Artikel Ilmiah dan Tugas Akhir*. Yogyakarta: K-Media.
- Budiono, I., & Suhendar, U. (2019). Meningkatkan Pemahaman Konsep Matematika Siswa Melalui Pendekatan RME. *Seminar Nasional Pendidikan dan Pembelajaran 2019*, 488-495. <http://seminar.umpo.ac.id/index.php/SNPP2019/article/view/350>.
- Hidayat, E. I. F., Yandhari, I. A. V., & Alamsyah, T. P. (2020). Efektivitas Pendekatan Realistic Mathematics Education (RME) untuk Meningkatkan Kemampuan Pemahaman Konsep Matematika Siswa Kelas V. *Jurnal Ilmiah Sekolah Dasar*, 4(1), 106-113. <https://ejournal.undiksha.ac.id/index.php/IISD/article/view/21103>.
- Jeheman, A. A., Gunur, B., & Jelatu, S. (2019). Pengaruh Pendekatan Matematika Realistik Terhadap Pemahaman Konsep Matematika Siswa. *Mosharafa: Jurnal Pendidikan Matematika*, 8(2), 191-202. https://journal.institutpendidikan.ac.id/index.php/mosharafa/article/view/mv8n2_02.
- Mawaddah, S., & Maryanti, R. (2016). Kemampuan Pemahaman Konsep Matematis Siswa SMP dalam Pembelajaran Menggunakan Model Penemuan Terbimbing (Discovery Learning). *Edu-Mat: Jurnal Pendidikan Matematika*, 4(1). <https://ppjp.ulm.ac.id/journal/index.php/edumat/article/view/2292>.
- Novitasari, D. (2016). Pengaruh Penggunaan Multimedia Interaktif Terhadap Kemampuan Pemahaman Konsep Matematis Siswa. *Fibonacci: Jurnal Pendidikan Matematika dan Matematika*, 2(2), 8-18. <https://jurnal.umj.ac.id/index.php/fbc/article/view/1650>.
- Nurfauziah, I., Nuryani, P., & Fitriani, A. D. (2019). Penerapan Pendekatan RME untuk Meningkatkan Pemahaman Konsep Matematis Siswa Kelas IV SD. *Jurnal Pendidikan Guru Sekolah Dasar*, 4(1), 388-397. <https://ejournal.upi.edu/index.php/jpgsd/article/view/20688>.
- Purwanti, R. D., Pratiwi, D. D., & Rinaldi, A. (2016). Pengaruh Pembelajaran Berbatuan Geogebra Terhadap Pemahaman Konsep Matematis Ditinjau dari Gaya Kognitif. *Al-Jabar: Jurnal Pendidikan Matematika*, 7(1), 115-122. <http://ejournal.radenintan.ac.id/index.php/al-jabar/article/view/9699>.
- Sari, A., & Yuniati, S. (2018). Penerapan Pendekatan Realistic Mathematics Education (RME) Terhadap Kemampuan Pemahaman Konsep Matematis. *Jurnal Cendekia: Jurnal Pendidikan Matematika*, 2(2), 71-80. <https://www.j-cup.org/index.php/cendekia/article/view/49>.
- Sutisna, A. P., Maulana, M., & Subarjah, H. (2016). Meningkatkan Pemahaman Matematis Melalui Pendekatan Tematik dengan RME. *Jurnal Pena Ilmiah*, 1(1), 31-40. <https://ejournal.upi.edu/index.php/penailmiah/article/view/2929>.
- Tanjung, H. S. (2019). Penerapan Model Realistic Mathematic Education (RME) untuk Meningkatkan Pemahaman Konsep dan Hasil Belajar Ssiwa Kelas XI SMAN 3 Darul Makmur Kabupaten Nagan Raya. *MAJU: Jurnal Ilmiah Pendidikan Matematika*, 6(1). <https://ejournal.stkipbbm.ac.id/index.php/mtk/article/view/311>.
- Wulandari, S., Darma, Y., & Susiaty, U. D. (2019). Pengembangan Modul Berbasis Pendekatan Realistic Mathematics Education (RME) Terhadap Pemahaman Konsep. *Jurnal Pendidikan*

Informatika dan *Sains*, 8(1), 143-152.

<https://journal.ikipgriptk.ac.id/index.php/saintek/article/view/1179>.

Yulianty, N. (2019). Kemampuan Pemahaman Konsep Matematika Siswa dengan Pendekatan Pembelajaran Matematika Realistik. *Jurnal Pendidikan Matematika Raflesia*, 4(1), 60-65. <https://ejournal.unib.ac.id/index.php/jpmr/article/view/7530>.