



The Effect of RME Application on Mathematics Learning Outcomes

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ABSTRACT

Students' learning is categorized sufficiently low, owing to the lack of student participation in learning, so interesting learning methods are required to increase student learning results. The purpose of the study is to analyze the results of studying student Realistic Mathematics Education (RME) after adopting the Realistic Mathematics Education (RME) approach and explaining the application of the Realistic Mathematics Education (RME) approach to improving the results of studying student mathematics. The study USES library studies as a method of collecting data. Data sources in the study number 10 scientific articles accessed from some sites about how a RME approach might affect the results of studying student mathematics. Based on a study of some of the literature and the scientific articles already accessed, the writer has concluded that the advanced Realistic Mathematics Education (RME) approach has a positive effect on student study results. Advanced Realistic Mathematics Education (RME) can be a teacher's consideration to increase the study interest of learners so that their learning competence is improving, especially today.

INTRODUCTION

Mathematics as the foundation for the development of modern technology plays a vital role in the disciplines of human life and advances man's mindset. To master future technology requires early mathematical understanding. The statement coincides with specifying ri no. 41 2007 on the process standard for basic and secondary education units mentioning that learning processes on each of the interactive, inspiring, fun, challenge, and motivate learners to actively participate, and provide opportunities as broad as possible for initiatives, creativity, and self-reliance that are compatible with talent, interest, And the level of physical and psychological development of learners. Math subjects, therefore, are required to be taught all students from elementary school to equip learners with logical, analytical, systematic, critical, and creative thinking ability, as well as with the ability to work together.

Mathematics is part of mankind's knowledge of logical reasoning and systematic, related problems. In the study of mathematics, students are required to understand mathematical concepts in order to solve a problem or solve a math problem. The skill of calculating in the matter and understanding of mathematical concepts has a profound effect on students' learning.

According to mark (2018: 1), the result of learning is one of the benchmarks of an educator's performance in the learning process arrangement. Math learning is said to be a success when students are active in the learning process. That success can be seen from the value of students' math lessons after the process of learning teaching. The higher the value students obtain the higher the rate of success a learning process.

Math learning is defined as the process of giving students learning experiences through well-planned activities in order for students to gain competence about the math materials learned. Many factors have caused a student's difficulty in learning mathematics. One is a model and teaching method that has not been consistent with the learning process. The teacher gives only information and mathematical formulas and then gives the matter of practice, thereby making the student feel bored and bored that impact on less-optimal learning outcomes.

According to the above problem, the achievement of studying student mathematics is not easy, for math is individual. Each student has a different ability to understand active thinking and mathematical concepts. Even so, the attainment of student mathematics still needs to be done for the students' success. One of the efforts to address the problem is that teachers are required professionals in planning and carrying out learning.

Therefore, teachers must be able to devise mathematical learning by methods, approaches and teaching techniques that can make students active, innovative in learning and as subjects of learning rather than learning objects. In a good approach, teachers should prepare learning activities that can enable students to actively invent mathematical ideas or concepts so that a lively, attractive atmosphere of study can excite the interest and activity of students in studying mathematics so that students' study results can increase.

One approach that can improve students' study results is the approach to advanced Realistic Mathematics Education (RME). Freudenthal states that mathematics is "human activity" and from this idea the RME was developed. RME unifies views on what mathematics is, how students learn mathematics, and how mathematics must be taught. In math education, according to Freudenthal students are not just passive recipients of ready food math materials, but students need to be given a chance to re-invent math through a practice of their own experience. A major principle of RME is that students must actively participate in the learning process. Students must be given opportunities to build their own knowledge and understanding.

Based on the above exposure, the authors are interested in conducting a study entitled "a literature study on the RME approach to mathematical results." The study aims to know the results of studying student mathematics after applying the RME approach.

METHODOLOGY

Research methods used in this study are research for literature studies, where data retrieval systems in this study are based on books or journals analyzed on the basis of problems. Zed (2014:3) a library or literature study is an activity regarding library data collection methods, reading and recording and processing of research material. The source of this study is some documents - the fibers of previous research journals that are relevant to the study. The study analyzes references sourced from journals and books and links them with phenomena. According to Nazir (2014:27) a study of literature is a data-gathering technique by conducting a study of books, literacy, records and reports that relate to the problem solved. Based on the research that Realistic Mathematics Education (RME) approaches affect the mathematical result, this type of study is a literature study with studying 10 of the journal on how RME approaches apply to students' study. The scientific criteria for the information articles are the scientific articles that have been published in a minimum 7-year journal from tofu, 2017 to 2023. Results from the various literature eggs will be used to identify if there is an effect of applying RME approaches to students' study results.

RESULTS

Realistic Mathematics Education (RME) is released by Hans Freudenthal, a mathematics researcher from the Netherlands. Freudenthal tries new breakthroughs, making abstract mathematics into abstract matter so that it can be easily understood. This approach is applied to developing students' activities in studying mathematics. Students are directed to be able to utilize various situations and conditions in order to find mathematical concepts in their own way.

The view of constructivism constructs the students' own knowledge into the building of a better knowledge than the knowledge given in the form the educators were already completing. Thus, through Realistic Mathematics Education (RME) students will learn in a meaningful way, so students will

better understand what they are learning rather than merely knowledge. (arief aulia rahman, 2018).

The following are the results of a number of articles dealing with the effects of Realistic Mathematics Education (RME) approach has to deal with the results of mathematics study.

Table 1. Data Reduction Results

No.	Author Name	Article Title	Research Results
1.	Luh Catrining and I Wayan Widana	The influence of the Realistic Mathematics Education (RME) learning approach on the interest and learning outcomes of mathematics	The average mathematics learning outcomes of students who follow the Realistic Mathematics approach of 80.35 are higher than the average mathematics learning outcomes of students who follow conventional learning of 75.78
2.	Febiyanti R. Hasan, Sarson W. Dj Pomalato, and Hamzah B. Uno	The influence of the Realistic Mathematic Education (RME) approach on the learning process of mathematics in terms of learning motivation	Students who are taught with the RME approach, the mathematics learning outcomes of students who have higher intrinsic learning motivation and there is an influence of interaction between the RME learning approach and student learning motivation on mathematics learning outcomes.
3.	Siti Khofifah, Wahyu Setiawan, Gida Kadarisma	Improving Junior High School Mathematics learning outcomes through the Realistic Mathematics Education (RME) approach.	By using the RME approach, student learning outcomes have increased as indicated by the increase in student learning success, which obtained an average score of 38.80 with a percentage of 6.6% and increased to 89.40 with a percentage value of 100%.
4.	Heni Noviyanti, Nurhayadi & I Nyoman Murdiana	The Effectiveness of Realistic Mathematics Education (RME) Learning on Mathematics Learning Outcomes (Experimental Study on	The average learning outcomes before and after using the Realistic Mathematics Education Approach (PMR) increased significantly. The posttest

		Trigonometric Comparison of Special Angles in class X MIA 1 SMAN 3 PALU.	score of the control class was 43.67, while the experimental class was 79.07.
5.	Dea Mutia, Indra Jaya, Nirvana Anas.	The Effect of the Realistic Mathematics Education (RME) Learning Model on Student Learning Outcomes	There was a significant improvement between learning outcomes before and after using the <i>Realistic Mathematics Education</i> (RME) approach. The average pre-test result in the treatment class was 58.29, while the average post-test result in the treatment class was 87.14.
6.	Muncarno, and Nelly Astuti	The Effect of the RME Approach on Mathematics Learning Outcomes	The influence of the Realistic Mathematics Education (RME) approach on student learning outcomes. The effect can be seen from the difference in learning outcomes between the experimental class and the control class. The average posttest score of the experimental class was 62.31 while the control class was 52.22.
7.	Norliyana	Realistic Mathematics Education (RME) Approach to Improve Mathematical Reasoning of Class VII Students of Smp Negeri 1 Kertak Hanyar on Fractional Material	The RME approach to improving students' mathematical reasoning skills is successful. Because the percentage of the average score of the observation of teacher and student activities is at the minimum good criteria and the percentage of students who achieve good and very good mathematical reasoning criteria reaches more than or equal to 60% of the number of students who take the test

8.	Fausiah Syafuruddin, and Jeranah	The effectiveness of applying the quantum learning model with a realistic mathematics education (RME) approach to student learning outcomes	The application of quantum learning models with the RME approach obtained an average of 89.65% and 10.35% of student responses did not like the application of quantum learning models with the RME approach. This shows that students' responses to the learning process are in the positive category
9.	Rahma Ika Victoria	The Effect of a Scientific Approach Based on Realistic Mathematics Education (RME) on Student Learning Outcomes	The Realistic Mathematics Education approach has a better influence than conventional learning on the mathematics learning outcomes of SMP Negeri 2 Sumbergempol students On the material of linear equations and inequalities of one variable based on Cohen's formula, 86% is classified as high interpretation
10.	Imam Pakhrurrozi	The Effect of Using the Realistic Mathematics Education (RME) Learning Model on Student Learning Outcomes on the subject of the pythagoras theorem in Madrasah Tsanawiyah	The influence of the Realistics Mathematics Education (RME) learning model learning model in improving student learning in mathematics subjects on Pythagorean theorem material in class VIII MTS NW SIKUR learning year 2020/2021. With the average score of student achievement after the application of the RME model is higher than the average score in the control class. The average score in the control class was 72.26 and in the experimental class the average score of students was 79.28.

CONCLUSIONS AND RECOMMENDATIONS

Based on studies of a number of literature and scientific articles accessible from 10 the journal of science, the author has concluded that the application of Realistic Mathematics Education (RME) approaches to studying students has a positive effect. The application of the rme approach can be a consideration to teachers to increase the motivations of learners' learning so as to increase their learning results, especially in the present era.

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