



Improving Students' Self-Esteem in Learning Mathematics through a Realistic Mathematic Education

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Abstract: This research is motivated by the problem, the low level of self-esteem of students. The purpose of this study was to determine the increase in self-esteem of students with realistic mathematics education in mathematics learning, and to determine student responses to mathematics learning with realistic mathematics learning. This type of research is descriptive research through questionnaire analysis. The instrument used is a self-esteem questionnaire to see self-esteem abilities that have been tested and a questionnaire to see student responses. In this study, data were obtained to see the increase in self-esteem of students with realistic mathematics education in learning mathematics and to see student responses to learning mathematics using mathematics education which were analyzed using a Likert attitude scale. The scale in this self-esteem contains four components, namely: students' assessments of (1) their ability (capability) in mathematics, (2) their success (successfulness) in mathematics, (3) their significance in mathematics, and (4) goodness (worthiness) himself in mathematics. The conclusion obtained in this study related to self-esteem in mathematics is that it can be seen as a whole using a realistic mathematical education. It shows that there are 86.56% of students giving positive responses.

Keywords: self-esteem, junior high school students, realistic mathematic education.

Abstrak: Penelitian ini dilatarbelakangi oleh permasalahan, rendahnya tingkat kemampuan self-esteem siswa. Tujuan penelitian ini adalah untuk mengetahui peningkatan kemampuan self-esteem siswa dengan pendidikan matematika realistik dalam pembelajaran matematika, dan untuk mengetahui respon siswa terhadap pembelajaran matematika dengan pembelajaran matematika realistik. Jenis penelitian ini adalah penelitian deskriptif melalui analisis angket. Instrumen yang digunakan adalah angket self-esteem untuk melihat kemampuan self-esteem yang telah diujikan dan angket untuk melihat respon siswa. Dalam penelitian ini, data diperoleh untuk melihat peningkatan kemampuan self-esteem siswa dengan pendidikan matematika realistik dalam pembelajaran matematika dan untuk melihat respon siswa terhadap pembelajaran matematika menggunakan pendidikan matematika yang dianalisis menggunakan skala sikap Likert. Skala dalam self-esteem ini memuat empat komponen yaitu: penilaian siswa tentang (1) kemampuan (capability) dirinya dalam matematika, (2) keberhasilan (successfulness) dirinya dalam matematika, (3) kemanfaatan (significance) dirinya dalam matematika, dan (4) kebaikan (worthiness) dirinya dalam matematika. Kesimpulan yang diperoleh dalam penelitian ini terkait self-esteem dalam matematika adalah dapat dilihat secara keseluruhan dengan menggunakan pendekatan matematika realistik menunjukkan terdapat 86,56% siswa memberikan respon positif.

Kata kunci: self-esteem, siswa SMP, pendekatan matematika realistik.

▪ INTRODUCTION

In general, the purpose of providing education is to develop and foster the potential of human resources through various activities held at all levels of education and at the elementary, secondary, and tertiary levels. Various efforts to improve education have been carried out by, among others, by equipping facilities and infrastructure, improving quality, and increasing training on life development (life skills) through the competence of students to adapt and learn in the future (Siswati, 2019; Troutman & Lichtenberg, 1982). In improving the quality of education there are various life skills that must be possessed by students including cognitive, affective and psychomotor aspects. In addition to cognitive aspects, affective or psychological aspects are also needed, including students' self-esteem.

Teachers are required to play a role to foster self-esteem or self-esteem of students (Kong et al., 2013; Standage & Gillison, 2007). In an activity, the treatment and feelings become one that will affect self-esteem in students. Lack of self-confidence and self-acceptance can reduce self-esteem. However, if there is pride in the abilities mastered, it can increase self-esteem (Diseth et al., 2014). The higher one's self-esteem, the better one's performance (Hilmy Abdullah & Takwin, 2018). People act on their self-worth and measure their self-worth by their performance (Refnadi, 2018). In general, success in performance increases confidence in one's self-worth; Repeated performance failure will lower one's self-esteem (Hutteman et al., 2015).

Self-esteem is an individual's assessment of himself based on the belief that he is a capable, important and valuable individual who is influenced by the results of his interactions with those around him and the attitudes, acceptance, appreciation and treatment of others towards him (van Houtte et al., 2012; Zhao et al., 2012). Self-esteem is one of the basic needs for humans that can give a feeling that he is successful, capable and useful even though he has weaknesses and has experienced failure. The need for self-esteem will never stop so that it dominates individual behavior (Yıldırım et al., 2017). Self-esteem is a term used to describe individuals with a comprehensive evaluation dimension in themselves. Self-esteem or self-esteem is a belief and emotion that can be interpreted as a feeling where individuals can feel that they are valuable (Varghese & Pistole, 2017). In the world of education, especially schools, the quality of students' self-esteem needs to get more attention, because a good category of self-esteem will build aspects of the individual's personality and interactions with the environment. The importance of efforts in improving students' self-esteem is reinforced by the results of the study (Pellas, 2014) as well as (Jambor & Elliott, 2005) who noted that a significant positive relationship was found between self-esteem and student academic achievement.

The relationship between the quality of students' self-esteem and academic achievement is also proven by (Booth & Gerard, 2011; Nguyen et al., 2019; Nie et al., 2017) who found that the academic achievement of students with low self-esteem tended to be lower than students with high self-esteem. This is because the quality of self-esteem also affects students' desire to learn, affects their ability to focus, and their willingness to take risks. As has been explained that the condition of students' self-esteem affects their academic achievement, counseling guidance as an integral part in the implementation of the educational process, especially in schools, has urgency in paying attention to the quality of students' self-esteem. This is in line with the purpose

of counseling guidance as stated in Permendikbud number 111 of 2014 which is to help students (counselees) to achieve optimal development and complete personality, both in personal, social, learning and career aspects. To achieve this goal, counseling guidance has an obligation to pay attention to the psychological well-being of students, especially in this case is the quality of self-esteem (Zamroni et al., 2015).

Self-esteem is a subjective assessment made by an individual as an evaluation material about himself which is reflected in a positive or negative attitude, both internally and externally by expressing an attitude that is independent, disciplined, creative, and has high self-esteem (Foley-Nicpon et al., 2012; Kurtović et al., 2018). There are four aspects of individual self-esteem. These aspects are Strength (Power), Significance (Significance), Policy (Viture), and Competence (Competence) (Fatah et al., 2016; Zuckerman, 1985). The development of self-esteem is still rarely considered. The low self-esteem of students can be seen in students' low self-esteem in expressing opinions and showing their abilities and self-esteem affecting student achievement. Low self-esteem can reduce the desire to learn, blur the focus of the mind, and are reluctant to take risks. On the other hand, positive self-esteem builds a solid foundation for successful learning (Rahmani, 2011). Thus, the teacher plays a very important role in increasing students' self-esteem in learning mathematics. Students who already feel that they will never be successful in mathematics will easily give up or do not want to try to learn mathematics and will greatly affect their learning achievement.

Through preliminary observations made, it can be seen that students' self-esteem, especially in mathematics, is still not optimal. For several reasons, including the social environment, geography, culture, stages of student development, students' initial abilities, interests, family background, and so on. So in fact the ability of students' self-esteem is still relatively low. This unsatisfactory reality is caused by many factors, including those from within students, families and the environment. In the school environment itself, some teachers are still less creative and innovative in growing students' self-esteem. This can be seen from the lack of meaningful learning activities carried out by some teachers.

There are many things that teachers can do to make mathematics lessons more interesting for students. Among them are through various learning approaches that can be used, namely the realistic mathematical education. A realistic education can encourage students to understand the subject matter more realistically or not abstractly, because the teacher uses examples or props of objects around him so that they are easy to understand. It can also stimulate students' interest in learning mathematical concepts that seem monotonous and abstract because realistic mathematics approaches are very closely related to problems that occur in everyday life. So that it can make mathematics learning more real or not seem abstract. In this case, a realistic mathematical education helps most students understand the material that has been given by the teacher in a fun way and does not seem abstract (Passos et al., 2019).

The Realistic Approach is an adaptation of Realistic Mathematical Educations (RME), so that the principle of the Realistic education is the same as RME but in some respects it is different from RME. Freudenthal's view that "Mathematics is a form of human activity" is the basis for the development of Realistic Mathematics Education (RME). The meaning of mathematics is a human activity, namely mathematics is constructed from human activities and can be implemented in human activities.

According to Sembiring (2010) realistic mathematics has the following characteristics: (1) students think actively, (2) the context and teaching materials are directly related to the school environment and students, (3) the teacher's role is active in designing teaching materials and classroom activities. The difference is due to differences in context, culture, social and natural systems. Realistic education is a learning approach that begins with contextual problems to direct students in understanding a mathematical concept. It is also said that the Realistic Approach is an approach to learning mathematics that is oriented to everyday life (Siregar & Prabawanto, 2021). The concept of a Realistic Approach explains that in learning mathematics, students must be active and the development of ideas must be carried out by the students themselves, the teacher is only a facilitator (Maslihah et al., 2021). In the Realistic education, students learn mathematical concepts through real things first before entering abstract things (Sa'id et al., 2021).

Most of the teachers apply a lot of teacher-centered learning. The teacher starts learning by providing explanations or examples of material without combining it with the surrounding environment (real life context), then proceeds with giving assignments. Interaction between students and teachers is rare. The teacher dominates the learning process which has an impact on the lack of opportunities for students to develop their abilities through a learning process designed to find concepts. This shows that teachers do not have knowledge about the concept of learning based on the new paradigm with students as the center in the learning process (Laurens et al., 2017).

Furthermore, mathematics is still considered a difficult, abstract, and unpleasant subject by many students. This is shown by the phenomenon of students who think that mathematics has a lot of formulas that must be memorized (Rama Nida Siregar et al., 2020). In addition, the teacher is too monotonous and very serious in explaining mathematical material so that mathematics is the most boring lesson. A teacher tends to explain abstract mathematical concepts in a book way. How to teach a teacher by means of a book, is one of the factors that causes math material to be difficult for students to understand. The function of a teacher is to help students to understand the mathematical concepts contained in textbooks. If in fact the teacher concerned explains the concepts based on the language of the book without using their ability to make a lighter delivery, of course this does not help students understand the concept, but helps students read the book. If the case is like this, it will still make students in their confusion and in the end fall on the statement that mathematics is difficult. Even though there are many things that teachers can do to make mathematics lessons more attractive to students. For example, through various learning approaches, namely the realistic mathematical education (R. N. Siregar et al., 2020).

A realistic education can encourage students to understand the subject matter more realistically or not abstractly, because the teacher uses examples or props of objects around him so that they are easy to understand. It can also stimulate students' interest in learning mathematical concepts that seem monotonous and abstract because realistic mathematics approaches are very closely related to problems that occur in everyday life. So that it can make mathematics learning more real or not seem abstract. In this case, a realistic mathematical education helps most students understand the material that has been given by the teacher in a fun way and does not seem abstract (Royhana et al., 2021). The purpose of this study is to determine the description of

students' self-esteem in mathematics after using learning with a realistic mathematics education.

▪ **METHOD**

Participants

The sampling technique of this research used purposive sampling technique (Sugiyono, 2012). Because the researcher feels that the sample taken knows the most about the problem to be studied by the researcher. The use of purposive sampling in this study aims to determine students' self-esteem in mathematics after using learning with a realistic mathematical approach. The number of participants in this study were 36 grade VII students of Al-Ulum Junior High School Medan who were participants in this study.

Research Design and Procedures

This type of research is descriptive research through questionnaire analysis. Descriptive research is research that is intended to investigate circumstances, conditions, situations, events, activities, etc., the results of which are presented by describing and interpreting natural objects as they are through observation/observation including qualitative research methods (Creswell, 2015; Darmadi, 2011; Drew et al., 2017; Sugiyono, 2012). This study aims to describe students' self-esteem in mathematics after using learning with a realistic mathematics education.

Instrument

The data collection technique used is observation and using a questionnaire. Data collection is done by setting the self-esteem scale of students in mathematics is used to determine the level of self-esteem of students in mathematics. This scale in this study contains four components, namely: students' assessments of (1) their ability (capability) in mathematics, (2) their success (successfulness) in mathematics, (3) their significance in mathematics, and (4) his worthiness in mathematics. This scale was compiled based on the scale compiled by Reyna and Cristian, et al (Fadillah, 2010) with necessary modifications which were equipped with four answer choices, namely strongly agree (SS), agree (S), disagree (TS) and strongly disagree (STS). These four choices are useful to avoid students' doubtful choices about the statements given, and the researcher avoids statements that can make students hesitate in answering. The statements given are closed statements, about students' opinions which consist of positive and negative statements. The aspects and indicators of self-esteem used in this study were adapted from aspects and indicators of self-esteem developed by (Fadillah, 2010).

The scale model that will be used is the Likert scale model. The degree of assessment of a statement is divided into 4 categories, namely: strongly agree (SS), Agree (S), disagree (TS), and strongly disagree (STS). The results of the attitude scale analysis in this study are a description of students' self-esteem in mathematics after using learning with a realistic mathematics education.

Data Analysis

The data analysis technique uses descriptive analysis which aims to describe the state or status of a phenomenon or data collection which is classified into two groups of data and described in words or sentences, separated according to certain categories (Creswell, 2015; Drew et al., 2017; Sugiyono, 2012, 2013). The steps for conducting

data analysis in this study are: (1) Data Reduction (2) Data Display (Data Display) (3) Conclusion drawing or verification (conclusion drawing/verification) (Creswell, 2015; Drew et al., 2017; Sugiyono, 2012). Thus, after the stages in data analysis are completed, then a description of students' self-esteem in mathematics is obtained after using learning with a realistic mathematical education.

▪ **RESULT AND DISSCUSSION**

The results in this study will describe students' self-esteem in mathematics after using learning with a realistic mathematics education. The qualitative data in this study was obtained from the students' self-esteem scale. The students' self-esteem attitude scale was given to the class with a realistic mathematics education at the end of the lesson. This attitude scale is used to describe the students' self-esteem towards learning mathematics with a realistic mathematics education. The attitude scale consists of 25 statements (13 positive and 12 negative) containing four characteristics of self-esteem, namely: students' assessment of their abilities in mathematics; student's assessment of his success (successfullness) in mathematics; student's assessment of the usefulness (significance) himself in mathematics; students' assessments of their own worthiness in mathematics. Each character is developed into several indicators.

Analysis of students' self-esteem attitude scale data using the most analysis or mode. Meanwhile, for the interpretation of students' self-esteem attitude scale data, it is done using percentage categories based on (Bilda et al., 2019) which is presented in Table 1 below.

Table 1. Classification of student self-esteem attitude scale data

Answer Presentation	Interpretation
$P = 100\%$	all
$75\% \leq P < 100\%$	Almost entirely
$50\% < P < 75\%$	Most of the
$P = 50\%$	half
$25\% \leq P < 50\%$	Almost half
$0\% < P < 25\%$	Fraction
$P = 0\%$	Nobody

For example, suppose the statement number 13 is positive, namely "I feel proud when my opinion is accepted related to mathematics." resulted in $SS = 13.9\%$, $S = 66.7\%$, $TS = 19.4\%$, $STS = 0\%$, then the majority (66.7%) agreed, meaning that most students agreed if they felt proud when their opinion accepted in relation to mathematics. Next, a description of students' self-esteem per item will be described based on their characteristics of learning mathematics.

Student Self-Esteem Data Analysis for Characteristics of Students' Assessment of Self-Capabilities in Mathematics

There are several indicators that can be developed in compiling statements that are in accordance with the characteristics of self-esteem: students' assessments of their abilities in mathematics. The indicators used in this study are: showing confidence in their abilities in mathematics; and shows confidence that he is able to solve

mathematical problems. The summary of the results of students' self-esteem calculations for these characteristics is shown in Table 2.

Table 2. Results of Calculation of Students' Self-Esteem Scores for Characteristic 1

Statement		Statement	SS	S	TS	STS
No	Attribute					
1	+	I feel that I am able to do math problems given by the teacher.	9 25%	22 61.1%	3 8.3%	2 5.6%
3	-	I feel incompetent in math.	1 2.8%	7 19.4%	20 55.6%	8 22.2%
4	+	If I express a mathematical idea in front of the class then I believe the idea can be accepted.	5 13.9%	25 69.4%	6 16.7%	0 0%
5	-	I feel scared when the teacher asks math material.	0 0%	1 2.8%	26 72.2%	9 25%
7	-	The feeling of being afraid of being wrong makes me less courageous to answer math problems in front of the class.	5 13.9%	7 19.4%	15 41.7%	9 25%

From Table 2 above, it can be seen that for statement number 1 most students agree that they feel they are able to work on math problems given by the teacher. For statement number 3, most students disagree when they are said to be incompetent in mathematics. Then for statement number 4, most of the students agree that if he expresses mathematical ideas in front of the class, his ideas can be accepted. For statement number 5, most of the students did not agree when they were said to be afraid when the teacher asked the math material. And for statement number 7, almost half of the students did not agree with the statement which said that their fear of being wrong made them less daring to answer math problems in front of the class. Of the five statements concerning the characteristics of self-esteem: students' assessment of their abilities (capability) in mathematics, the five statements received a positive response so that it can be said that students assessed their abilities (capability) in mathematics with a realistic mathematical education.

Student Self-Esteem Data Analysis for Characteristics of Students' Assessment of Their Success (Successfulness) in Mathematics

There are several indicators that can be developed in compiling statements that are in accordance with the characteristics of self-esteem: students' assessment of their success (successfulness) in mathematics. The indicators used in this study are: realizing their own strengths and weaknesses in mathematics; and show pride when successful in math. The summary of the results of students' self-esteem calculations for these characteristics is shown in Table 3.

Table 3. Results of calculation of students' self-esteem scores for characteristic 2

Statement		Statement	SS	S	TS	STS
No	Attribute					
2	+	I can overcome the difficulties that	2	20	13	1

		arise during learning mathematics.	5.5%	55.6%	36.1%	2.8%
8	-	I have more confidence in the math answers than anyone else.	0	2	21	13
			0%	5,6%	58,3%	36.1%
11	+	I take pride in getting good grades in math.	32	4	0	0
			88.9%	11.1%	0%	0%
12	-	I only understand a small part of all the math material that the teacher gives.	3	19	11	3
			8.3%	52.8%	30.6%	8.3%
13	+	I feel proud when my opinion is accepted related to math.	10	26	0	0
			27.8%	62.2%	0%	0%
15	+	Being able to solve difficult math problems is an achievement for me.	15	17	3	1
			41.7%	47.2%	8.3%	2.8%

From Table 3 above, it can be seen that for statement number 2 more than half of students agree that they can overcome the difficulties that arise during learning mathematics. For statement number 8, most of the students did not agree with the feeling that they were more confident with the mathematical answers than other people. For statement number 11 almost all students strongly agree that they are proud when they get good grades in mathematics. Then for statement number 12, most of the students agreed that they only understood a small part of all the mathematics material given by the teacher. For statement number 13 most students agree that they are proud when their opinion is accepted related to mathematics. And for statement number 15, almost half of students agree that being able to solve difficult math problems is an achievement for them. Of the six statements concerning the characteristics of self-esteem: students' assessment of their success (successfulness) in mathematics, five statements with a positive response and one statement with a negative response. However, it can still be said that students assess their success (successfulness) in mathematics with mathematics learning with a realistic mathematics education.

Student Self-Esteem Data Analysis for Characteristics of Students' Assessment of Self-Significance in Mathematics

There are several indicators that can be developed in compiling statements that are in accordance with the characteristics of self-esteem: students' assessments of their significance in mathematics. The indicators used in this study are: showing confidence that he is useful for his friends and family in mathematics. The summary of the results of students' self-esteem calculations for these characteristics is shown in Table 4 below.

Table 4. Results of calculation of students' self-esteem scores for characteristic 3

Statement			SS	S	TS	STS
No	Attribute	Statement				
16	+	I can help my brother or sister when they have math homework.	7	27	2	0
			19,4%	75%	5,6%	0%
17	-	I don't really care when my friends ask me about math.	0	3	20	13
			0%	8,3%	55,6%	36,1%

From Table 4 above, it can be seen that for statement number 16 most students agree that they can help their younger brother or sister when their brother or sister gets their math homework. Then for statement number 17, most of the students did not agree if they were declared to be less concerned when asked about mathematics by my friends. received a positive response so that it can be said that students assess both the usefulness (significance) themselves in mathematics with mathematics learning with realistic mathematics approaches.

Student Self-Esteem Data Analysis for Characteristics of Students' Assessment of Their Worthiness in Mathematics

There are several indicators that can be developed in compiling statements that are in accordance with the characteristics of self-esteem: students' assessments of their worthiness in mathematics. The indicators used in this study are: showing a positive attitude in learning mathematics; show seriousness in solving mathematical problems; and show a willingness to learn mathematics because of their own desires not influenced by others. The summary of the results of students' self-esteem calculations for these characteristics is seen in Table 5.

Table 5. Results of calculation of students' self-esteem scores for characteristic 4

Statement						
No	Attribut e	Statement	SS	S	TS	STS
6	+	I have a strong desire to study mathematics.	14 38,9%	18 50%	3 8,3%	1 2,8%
9	-	I sometimes carelessly answer math problems.	0 0%	12 33,3%	23 63,9%	1 2,8%
10	-	If there is math homework then I will come to school early to cheat for fear of being punished by the teacher.	0 0%	0 0%	24 66,7%	12 33,3%
14	+	Every time I have a math assignment, I do it well.	15 41,7%	20 55,5%	1 2,8%	0 0%
18	+	I dare to ask questions during mathematics learning.	20 55,6%	14 38,9%	2 5,5%	0 0%
19	-	I am lazy to actively ask questions during the learning process of mathematics in class.	0 0%	1 2,8%	27 75%	8 22,2%
20	+	I enjoy studying math books in addition to textbooks.	8 22,2%	22 61,1%	6 16,7%	0 0%
21	+	Before the math test was held, I always studied optimally.	6 16,7%	30 83,3%	0 0%	0 0%
22	-	I always have a lot of difficulties when taking math tests.	1 2,8%	10 27,7%	20 55,6%	5 13,9%

Statement		Statement	SS	S	TS	STS
No	Attribute					
23	+	I enjoy taking extra math lessons.	12 33,3%	24 66,7%	0 0%	0 0%
24	-	If the math problem I'm facing looks difficult, I'll avoid it.	0 0%	5 13,9%	20 55,6%	11 30,5%
25	-	I want to study math only when my parents ask me to.	0 0%	0 0%	22 61,1%	14 38,9%

From Table 5 it can be seen that for statement number 6 half of the students agree that they have a strong desire to learn mathematics. For statement number 9, most students disagree that they are sometimes careless in answering math problems. Then for statement number 10, most of the students did not agree that they would come to school earlier when there was a math homework for cheating for fear of being punished by the teacher. For statement number 14, most of the students agreed that they did well every time there was a math task. And for statement number 18, most of the students felt strongly agree that they dared to ask questions during mathematics learning. Then for statement number 19, most of the students did not agree that they were lazy to actively ask questions during the learning process of mathematics in class.

For statement number 20, most of the students agree that they enjoy studying math books other than textbooks. For statement number 21, almost all of the students agreed that before the mathematics test was held they always studied optimally. As for statement number 22, most of the students did not agree that they always had a lot of difficulties when taking math tests. For statement number 23, most of the students agree that they enjoy taking additional mathematics lessons. For statement number 24, most of the students did not agree that they would avoid facing math problems that looked difficult. And for statement number 25 most students do not agree that they want to learn mathematics only when asked by their parents.

Of the 12 statements concerning the characteristics of self-esteem: students' assessment of their worthiness in mathematics, 11 statements with a positive response and one statement with a negative response. However, it can still be said that students assess their worthiness in mathematics by using realistic mathematics learning approaches.

Furthermore, a description of the overall self-esteem of students towards learning mathematics with a realistic mathematics education will be described. Analysis of the data by making a frequency distribution on the alternative answers chosen by students. For positive statements, the choice is SS=4, S=3, TS=2, STS=1, but for negative statements it will be reversed to STS=4, TS=3, S=2, SS=1. The results of the recapitulation of all students' overall self-esteem items on mathematics learning with realistic mathematics approaches will be presented in Table 6.

Table 6. Results of data recapitulation of students' self-esteem attitude scale overall

No Item	Alternative Answer			
	1	2	3	4

No Item	Alternative Answer			
	1	2	3	4
Student's assessment of his ability (capability) in mathematics.				
1	2	3	22	9
3	1	7	20	8
4	0	6	25	5
5	0	1	26	9
7	5	7	15	9
Students' assessment of their success (successfulness) in mathematics.				
2	1	13	20	2
8	0	2	21	13
11	0	0	4	32
12	3	19	11	3
13	0	0	26	10
15	1	3	17	15
Student assessment of the usefulness (significance) himself in mathematics.				
16	0	2	27	7
17	0	3	20	13
Students' assessment of their own worthiness in mathematics.				
6	1	3	18	14
9	0	12	23	1
10	0	0	24	12
14	0	1	20	15
18	0	2	14	20
19	0	1	27	8
20	0	6	22	8
21	0	0	30	6
22	1	10	20	5
23	0	0	24	12
24	0	5	20	11
25	0	0	22	14
Total	15	106	518	261
Percentage (SMI = 900)	1,67%	11,77%	57,56%	29%
	13,44%		86,56%	

From the table, it can be seen that the students' self-esteem as a whole using mathematics learning with a realistic mathematics education. Alternative answers for points from low to high indicate that the response is increasingly positive. It can be seen in the table that the overall response to the statements on the self-esteem attitude scale the most is the alternative answer 3 of 57.56%. Meanwhile, if it is divided into two positive and negative categories, the negative response shows as many as 13.44% of students, and a positive response shows that there are 86.56% of students, meaning that almost all students evaluate themselves positively when learning mathematics using realistic mathematics learning approaches.

This is in accordance with the characteristics of a realistic mathematical education which include (1) the use of contextual problems, in which context selection is based on student experience (2) modeling, (3) student activity, in which students are given the opportunity to discuss, express ideas and solutions in their respective groups. -

respectively; (4) interactivity, where there is interaction between teachers in directing the difficulties experienced by students in solving problems; and (5) linkage (Heriyadi & Prahmana, 2020). This can lead to various positive interactions. Meanwhile, at the celebration stage, students are given recognition and awards for each completion, participation, and acquisition of skills and knowledge.

This is in line with research which found that there was an increase in students' learning motivation after taking a realistic mathematics education. These findings underlie the findings on the achievement of positive self-esteem in students when learning mathematics using a realistic mathematics education. Motivation from within will grow after students have a positive assessment of themselves (Handayani & Irawan, 2020).

In general, students who receive learning with a realistic mathematics education have a positive tendency towards self-esteem. For example showing a positive attitude in learning mathematics; show seriousness in solving mathematical problems; and show a willingness to learn mathematics because of their own desires not influenced by others. Furthermore, students respond positively the application a realistic mathematics education in mathematics learning, which indicated that students who have high self-esteem abilities will have an impact on their learning achievement and can improve students' mathematical abilities.

▪ **CONCLUSION**

Based on the analysis of research results related to self-esteem in mathematics, it can be concluded that it can be seen that as a whole using a realistic mathematical education, there are 86.56% of students giving positive responses, meaning that almost all students assess themselves positively when learning using mathematics learning based on a realistic mathematical education. Schools and teachers can create creative and innovative learning that includes the use of realistic mathematical education to arouse interest, motivate students to learn, and boost students' self-esteem in all subjects. It is hoped that it can be done. In addition, we encourage you to use different learning models to help your students develop their self-esteem. The researcher suggest that the next researcher use a realistic mathematical education to conduct similar research that is deeper, broader, and complementary to other mathematical skills.

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