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The Effect of the RME Approach with the TAI Learning Model on Divergent Thinking Ability and Self-Confidence of Junior High School Students

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Abstract

The purpose of this research is to describe the effect of the RME approach with the TAI learning model on the divergent thinking ability and self-confidence of junior high school students, as well as to explain the advantages of this learning approach compared to learning that only uses the RME approach in terms of divergent thinking ability and self-confidence. This study is a quasi-experimental research with a population of all eighth-grade students at SMP Negeri 2 Jonggat for the 2023/2024 academic year. The sample selection used purposive random sampling. Two classes were chosen from four classes, namely class VIII A and VIII B. From these two classes, a random draw was conducted, resulting in class VIII A being the experimental class 1, which used the RME approach with the TAI learning model, and class VIII B being the experimental class 2, which used only the RME approach. The instruments used to collect data were divergent thinking ability test questions and a self-confidence questionnaire. Instrument validation was done using content validation through expert judgments by calculating Aiken's V validity index. Meanwhile, the instrument reliability estimation used Cronbach's alpha coefficient. Statistical tests were used to see the simultaneous effect of the RME approach with the TAI learning model on the divergent thinking ability and self-confidence of students, and these were Multivariate Analyses of Variance (MANOVA). To see the partial effect of the RME approach with the TAI learning model on divergent thinking ability and self-confidence, the independent sample t-test was used. The results of study at a 5% significance level showed that learning using the RME approach with the TAI learning model had a simultaneous effect on the divergent thinking ability and self-confidence of junior high school students. Learning using the RME approach with the TAI learning model had a partial effect on divergent thinking ability. Learning using the RME approach with the TAI learning model had a partial effect on self-confidence.

Keywords: *Realistic Mathematics Education (RME); Team Assisted Individualization (TAI); Divergent Thinking Ability; Self-Confidence*

Introduction

The implementation of the Independent Curriculum directs students towards real problems relevant to the learning context. The Independent Curriculum encourages students to develop critical, creative, and innovative thinking and acting skills. Creativity is the ability of individuals to generate new

ideas, unusual ideas that deviate from traditional thought schemes, and quickly and accurately solve problematic situations (Chen, 2016). Munandar (1999, p. 44) states that creativity allows for innovations in science and technology. Regarding the process of creating innovations, it is not only creativity that plays an important role but also the thinking process used.

The thinking process involves a series of stages that alternate or complement each other. The thinking process can be differentiated into deductive-inductive thinking, convergent thinking, and divergent thinking (Butler-Kisber, 2010). Individuals who think convergently tend to have only one solution to a problem, while individuals with divergent thinking abilities can generate many solutions to the same problem. Weisberg (2006) argues that divergent thinking plays an important role in every individual's life because this ability has a strong relationship with aspects of learning creativity.

Divergent thinking is a thinking process that involves the ability to develop various creative and innovative alternative answers based on available information, with an emphasis on the variation and novelty of the solutions generated (Faridah & Ratnaningsih, 2019). Guilford (1968) states that divergent thinking can be identified through four main indicators: fluency, flexibility, originality, and elaboration.

Observations of mathematics learning at the junior high school level show that creative thinking skills, especially in terms of divergent thinking, are low. Indications found include: (1) only a few students, about two or three in the class, actively respond when given the opportunity to ask or answer questions from the teacher, (2) the answers given by students are still limited to what is available in textbooks, lack variety, and some students are unable to provide adequate reasons for the answers given. This is reinforced by research results conducted by Putri (2016) and Andriyana et al. (2022, p. 202), which found that the level of students' divergent thinking ability is still low.

In the teaching and learning process, besides cognitive aspects, teachers also need to pay attention to the psychological needs and conditions of students, in this case, the affective aspect. One of these aspects is self-confidence. Suhendri (2012) states that self-confidence is a positive mental attitude possessed by individuals that allows them to have a good position in recognizing themselves and their environment, making them feel comfortable in carrying out activities to achieve planned goals. Surya et al. (2017) also state that students with adequate self-confidence will have positive feelings, strong beliefs, and sufficient knowledge about their abilities, allowing them to develop their knowledge and talents. According to Ningsih & Warmi (2021, p. 622), the indicators of students' mathematical self-confidence are: 1) belief in one's abilities, 2) acting independently in making decisions, 3) having a positive self-concept, and 4) daring to express opinions.

Self-confidence must be a concern in the learning process because, according to TIMSS (2019) research results, the self-confidence of Indonesian students is still low, below 30% compared to other countries. This is reinforced by the findings of Arofah & Hidayati (2021, pp. 328-335), revealing that the level of students' self-confidence in learning mathematics at the junior high school level is still low, with almost half of the students not mastering the established self-confidence indicators.

Based on interviews with teachers at SMP Negeri 2 Jonggat, the challenges often faced by teachers are how they can package the learning process and instill the concepts in students. Teachers' teaching skills are still considered inadequate. The appropriate learning approach to enhance cognitive and affective aspects in the teaching and learning process at schools, in this case, divergent thinking ability and self-confidence, were student-centered. The suitable approach and learning model to be applied by teachers is the Realistic Mathematics Education (RME) approach combined with the Team Assisted Individualization (TAI) learning model, as this learning approach can enhance thinking abilities, encourage activeness, and boost students' self-confidence. Darwis et al. (2017), Dewi et al. (2015), and Putra (2020) showed that learning with RME is effective when set with the cooperative learning type Team Assisted Individualization (TAI).

The Realistic Mathematics Education (RME) approach was first time introduced and developed by an institute in the Netherlands in 1971 (Van den Heuvel-Panhuizen & Drijvers, 2020). Treffers (1993) states that "The philosophy of Realistic Mathematics Education (RME) holds mathematics as a human activity that is connecting to reality". This means the philosophy of Realistic Mathematics Education (RME) views mathematics as a human activity relevant to reality. The Realistic Mathematics Education (RME) approach emphasizes the use of real contexts as a starting point for learning mathematics. This approach focuses on the process of doing mathematics and involves the use of informal problem-solving methods before using formal methods or formulas. Ekowati et al. (2015, p. 81) explain that the Realistic Mathematics Education (RME) approach fosters cooperation among students, improves harmonious relationships between students and teachers, helps students think creatively, express ideas, enhances their communication skills, sense of responsibility, and self-confidence, and increases students' interest in learning. Rumahorbo et al. (2022), Utami and Ilyas (2019), Asmara et al. (2022), and Astra et al. (2022) state that the RME approach influences students' creativity. Furthermore, Asdar (2021), Septiani and Ristiana (2020), Dinar (2019), Delina et al. (2018), Ariffah and Rusnilawati (2023), and Pertiwi (2019) also state that the RME approach affects students' self-confidence.

The Team Assisted Individualization (TAI) learning model was developed by Robert Slavin at Johns Hopkins University along with Nancy Madden (Sharan, 2014). Slavin (2015) states that Team Assisted Individualization (TAI) is a learning model that uses heterogeneous groups of several students, with each group consisting of 4-6 students working together to solve given problems. Students experiencing individual learning difficulties can be helped by implementing the TAI model because students learn actively in class by collaborating in groups to solve given problems, thereby interacting, helping, and complementing each other so that students with low abilities are expected to improve their skills (Palinussa, 2020). Sugiantoro & Hasyim (2019) found an increase in student learning activities after implementing the TAI model. Akhirman and Ma'rifah (2019) and Nurdin (2020) state that the TAI learning model influences students' creativity. Additionally, Martyanti (2016) and Octaningrum and Widjajanti (2016) also state that the TAI learning model affects students' self-confidence.

Based on the above explanation, this research aims to examine the influence of the Realistic Mathematics Education (RME) approach with the Team Assisted Individualization (TAI) learning model in mathematics learning on the divergent thinking ability and self-confidence of junior high school students.

Methods

This research uses a quantitative approach with a quasi-experimental method and a nonequivalent group's pretest-posttest design to examine the effect of the RME approach with the TAI learning model on eighth-grade students at SMP Negeri 2 Jonggat in solving problems related to the flat-sided space material.

The sample was selected using purposive random sampling. The chosen classes were more heterogeneous compared to the other classes. Therefore, class VIII B and class VIII A were selected as the research subjects. Each class consisted of 30 students. This research involved two classes, one as experimental class 1 and the other as experimental class 2. Class VIII B, as experimental class 1, was taught using the RME approach with the TAI learning model, while class VIII A, as experimental class 2, was taught only using the RME approach. The data collection techniques used in this research were tests and questionnaires. The research instruments used were divergent thinking ability test sheets and self-confidence questionnaires.

The divergent thinking ability test sheet was used to assess the divergent thinking ability on the flat-sided space material. The test used was an essay test. Tables 1 and 2 below are the instrument grid and the scoring rubric for students' divergent thinking abilities.

Table 1: Instrument Grid for Divergent Thinking Ability

No.	Aspect	Indicator	Question Number	Maximum Score
1	Fluency	1. Fluent in providing accurate answers	1a, 1b	4
		2. Providing many ways or strategies	2a, 2b	4
2	Flexibility	1. Providing ideas and many alternatives or different directions in answering	4a, 4b	4
		2. Producing varied ideas or answers	3a, 3b	4
Total Number			8 items	16

Table 2 below is the scoring guideline criteria for divergent thinking ability.

Table 2: Scoring Rubric for Divergent Thinking Ability Test

Question Number	Aspect	Score	Criteria
1a, 1b	Fluency	4	Illustrates or fluently provides accurate answers with the submission of two or more answers.
		3	Illustrates or fluently provides answers but contains errors, with the submission of two or more answers.
		2	Contains many errors in providing answers, with the submission of two or more answers.
		1	Illustrates or fluently provides answers but does not submit two or more answers.
		0	No answer or does not provide accurate answers with or without the submission of two or more answers.
3a, 3b	Flexibility	4	Able to generate ideas in the answering process with the production of two or more accurate problem-solving solutions/strategies.
		3	Contains errors in generating ideas in the answering process with the production of two or more accurate problem-solving solutions/strategies.
		2	Able to generate ideas in the answering process with only one accurate problem-solving solution/strategy.
		1	Contains many errors in generating ideas in the answering process with the provision of an accurate problem-solving solution/strategy.
		0	No answer or unable to generate ideas in the answering process.
2a, 2b	Fluency	4	Illustrates or fluently provides accurate answers with the submission of two or more answers.
		3	Illustrates or fluently provides answers but contains errors, with the submission of two or more answers.
		2	Contains many errors in providing answers, with the submission of two or more answers.
		1	Illustrates or fluently provides answers but does not submit two or more answers.
		0	No answer or does not provide accurate answers with or without the submission of two or more answers.

Question Number	Aspect	Score	Criteria
4a, 4b	Flexibility	4	Able to generate ideas in the answering process with the production of two or more accurate problem-solving solutions/strategies.
		3	Contains errors in generating ideas in the answering process with the production of two or more accurate problem-solving solutions/strategies.
		2	Able to generate ideas in the answering process with only one accurate problem-solving solution/strategy.
		1	Contains many errors in generating ideas in the answering process with the provision of an accurate problem-solving solution/strategy.
		0	No answer or unable to generate ideas in the answering process.

The self-confidence questionnaire is used to measure the level of students' self-confidence. Table 3 below outlines the grid for the self-confidence questionnaire.

Table 3: Self-Confidence Questionnaire Grid

Indicator	Item Number		Item Total
	+	-	
a. Belief in one's own abilities	5, 21, 38	1, 2, 3, 4, 18, 23, 31, 37	11
b. Having a positive self-concept	13, 14, 22, 25	11, 12, 15, 24, 33, 35	10
c. Independence in decision making	6, 9, 10, 32, 36	7, 8, 27, 29	9
d. Courage to express opinions	17, 20, 26, 30, 34	16, 19, 28	8
Total	17	21	38

In this questionnaire, respondents are asked to rate each statement using a Likert scale with five response options: always (SL), often (SR), sometimes (KK), rarely (JR), and never (TP). Table 4 below outlines the scoring criteria for self-confidence.

Table 4: Self-Confidence Scoring Criteria

Characteristic	Scoring Criteria				
	SL	SR	KK	JR	TP
Positive	5	4	3	2	1
Negative	1	2	3	4	5

Based on the test results, the divergent thinking ability and self-confidence of students on the topic of flat-sided space were determined. The validity of the instruments was used by expert judgment using Aiken's validity. The reliability of the instruments was measured using Cronbach's Alpha. The data analysis technique used in this research was MANOVA to determine the simultaneous effect of the RME approach with the TAI learning model. Additionally, an independent sample t-test was used to determine

the partial effect of the RME approach with the TAI learning model on divergent thinking ability and self-confidence. Before conducting these tests, prerequisite tests were performed, including univariate and multivariate normality tests and homogeneity tests of variances and variance-covariance matrices.

The procedure in this research consisted of three stages: 1) The preparation stage included: creating instruments such as teaching modules, student worksheets (LKPD), learning implementation sheets, test questions, and questionnaires. 2) The implementation stage included: giving a pretest on the topic of flat-sided space and a self-confidence questionnaire to the students of classes VIII B and VIII A. Subsequently, class VIII B as experimental class 1 received instruction using the RME approach with the TAI learning model, while class VIII A as experimental class 2 received instruction only using the RME approach. Then, a posttest on the topic of flat-sided space and a self-confidence questionnaire were given to the students of classes VIII B and VIII A. 3) The final stage included: data analysis, interpreting and discussing the data analysis results, drawing conclusions from the research results, and writing the report.

Results and Discussion

Results

Based on the validity calculations using expert judgment with Aiken's V formula, the content validity of the divergent thinking ability test instrument was 0.88, categorized as very high, while the self-confidence questionnaire was 0.79, categorized as high. Thus, the divergent thinking ability test instrument and the self-confidence questionnaire were considered valid. For reliability testing, if Cronbach's alpha value > 0.6, the research data can be considered reliable (Kusumawati, 2023). The analysis results showed that the consistency of students in answering the test questions and questionnaires was quite good. The Cronbach's alpha value for the test instrument was 0.785, while for the questionnaire, it was 0.914, both categorized as high, indicating that the test and questionnaire instruments were reliable.

The results of the descriptive data analysis consist of initial ability data (pretest) and final ability data (posttest) for each class, namely experimental class 1 and experimental class 2. The recapitulation of the test results is presented in Table 5 below.

Table 5: Descriptive Data Results

Data	**Description**	**Experimental Class 1**		**Experimental Class 2**	
		Pretest	**Posttest**	**Pretest**	**Posttest**
Divergent Thinking Ability	N	30	30	30	30
	Mean	40,73	83,41	40,09	61,21
	Standard Deviation	8,936	6,943	9,814	19,363
	Variance	79,857	48,203	96,309	374,942
Self-Confidence	N	30	30	30	30
	Mean	107,59	174,21	107,93	112,34
	Standard Deviation	9,612	8,231	8,181	11,968
	Variance	92,394	67,741	66,924	143,234

According to Table 5, there is an increase in divergent thinking ability in both experimental groups 1 and 2. The mean pretest score for experimental group 1 is 40,73, and the posttest score is 83,41, while for experimental group 2, the mean pretest score is 40,09, and the posttest score is 61,21. Although both groups experienced an increase, experimental group 1 showed a relatively greater improvement compared to experimental group 2. The posttest score of experimental group 1, at 83,41, is categorized as

good, whereas experimental group 2, at 61,21, is categorized as poor. Thus, it can be said that the scores of experimental group 1 are better compared to those of experimental group 2. This indicates that the learning approach using RME with the TAI learning model yields better results in improving students' divergent thinking abilities.

It is also noted that there is an increase in self-confidence in both experimental groups 1 and 2. The mean pretest score for experimental group 1 is 107,59, and the posttest score is 174,21, while for experimental group 2, the mean pretest score is 107,93, and the posttest score is 112,34. Although both groups experienced an increase, experimental group 1 showed a relatively greater improvement compared to experimental group 2. The posttest score of experimental group 1, at 174.21, is categorized as very high, whereas experimental group 2, at 112.34, is categorized as low. Thus, it can be said that the scores of experimental group 1 are better compared to those of experimental group 2. This indicates that the learning approach using RME with the TAI learning model yields better results in improving students' self-confidence.

The assumption tests, namely the normality test and homogeneity test of pretest-posttest data for experimental class 1 and experimental class 2 using SPSS for Windows 26, indicate that the data are normally distributed and homogeneous.

Hypothesis testing was conducted using MANOVA T2 Hotelling test and independent samples t-test. MANOVA T2 Hotelling test was performed to simultaneously determine the influence of the Realistic Mathematics Education (RME) approach with Team Assisted Individualization (TAI) instructional model on students' divergent thinking ability and self-confidence. The results of the MANOVA T2 Hotelling test are shown in Table 6 below.

Table 6 Results of MANOVA T^2 Hotelling Test

Data	**F**	**Hipotesis df**	**Sig.**
Posttest	291,934[a]	2,000	0,000

From Table 6, it is observed that the significance value obtained from the T2 Hotelling test on posttest data is$sig.$ < 0.05, thus rejecting $H0$, indicating significant differences in the mean scores of divergent thinking ability and self-confidence between experimental class 1 and experimental class 2. Therefore, it can be concluded that there is an influence of learning using the Realistic Mathematics Education (RME) approach with Team Assisted Individualization (TAI) instructional model on the two dependent variables, namely divergent thinking ability and self-confidence of students.

Independent samples t-test was conducted to partially determine the influence of the Realistic Mathematics Education (RME) approach with Team Assisted Individualization (TAI) instructional model on divergent thinking ability, and the influence on the self-confidence of students. The results of the independent samples t-test can be seen in Table 7 below.

Table 7 Results of Independent Samples t-Test

Posttest	**Classes**	**Mean**	***t***	**Sig.**
Divergent Thinking Ability	Experiment 2	61,2069	5,811	0,000
	Experiment 1	83,4052		
Self-Confidence	Experiment 2	112,34	22,935	0,000
	Experiment 1	174,21		

Based on the results of the independent samples t-test, the significance value is 0.000 < 0.05, thus rejecting $H_0$and accepting H_1, indicating significant differences in the mean scores of divergent thinking ability between the two classes. Therefore, it can be concluded that learning using the Realistic Mathematics Education (RME) approach with an assisted Individualization (TAI) instructional model influences students' divergent thinking abilities.

Based on the results of the independent samples t-test, the significance value is 0.000 < 0.05, thus rejecting *H*0 and accepting *H*1, indicating significant differences in the mean scores of self-confidence between the two classes. Therefore, it can be concluded that learning using the Realistic Mathematics Education (RME) approach with an assisted Individualization (TAI) instructional model influences students' self-confidence.

Discussion

The first hypothesis tested whether there is any influence of learning using the Realistic Mathematics Education (RME) approach with the Team Assisted Individualization (TAI) instructional model on divergent thinking ability and self-confidence. Based on the results of MANOVA T2 Hotelling calculation on the dataset after treatment, it was found that there were significant differences in the mean scores of divergent thinking ability and self-confidence between the experimental class 1 and the experimental class 2. The significance value obtained < 0.05. That means there is an influence of learning using the Realistic Mathematics Education (RME) approach with the Team Assisted Individualization (TAI) instructional model on two dependent variables, namely divergent thinking ability and self-confidence of students. Darwis et al. (2017) stated that the average scores using the RME approach with the TAI instructional model are categorized as satisfactory and can improve the learning outcomes of students.

The second hypothesis tested whether there is any influence of learning using the Realistic Mathematics Education (RME) approach with the Team Assisted Individualization (TAI) instructional model on divergent thinking ability. Based on Table 5, the average post-test score for divergent thinking ability in experimental class 1 is 83.41, and in experimental class 2 is 61.21. Based on the data obtained, experimental class 1 has a higher average compared to experimental class 2. Based on these results, there appears to be an influence of learning using the Realistic Mathematics Education (RME) approach with the Team Assisted Individualization (TAI) instructional model on the divergent thinking ability of students by the average post-test scores. To further confirm significant differences, hypothesis testing was conducted using an independent samples t-test on the post-test results shown in Table 7. Based on the results of the independent samples t-test, a significance value of 0.000 < 0.05 was obtained, so it can be concluded that *H*0 is rejected and *H*1 is accepted, indicating significant differences in the mean scores of divergent thinking ability between the two classes, thus learning using the Realistic Mathematics Education (RME) approach with the Team Assisted Individualization (TAI) instructional model influences divergent thinking ability. Akhirman and Ma'rifah (2019) stated that the TAI instructional model can enhance student creativity. Purnama et al. (2023) also stated that the average scores using the RME approach meet the criteria for student learning completeness. Amiruddini et al. (2020) also stated that RME can enhance the creative thinking skills of students by presenting real-life situations in the mathematics learning process.

The third hypothesis tested whether there is any influence of learning using the Realistic Mathematics Education (RME) approach with the Team Assisted Individualization (TAI) instructional model on self-confidence. Based on the results of the independent samples t-test in Table 7, a significance value < 0.05 was obtained, so it can be concluded that *H*0 is rejected and *H*1 is accepted, indicating significant differences in the mean scores of self-confidence between the two classes. Therefore, learning using the Realistic Mathematics Education (RME) approach with the Team Assisted Individualization

(TAI) instructional model influences the self-confidence of students. Asdar et al. (2021) stated that learning using the RME approach affects the self-confidence of students. Martyanti (2016) also stated that the TAI instructional model is effective in terms of the self-confidence of students. Dinar (2019) also stated that the implementation of RME-based mathematics teaching materials has a positive impact and influences the self-confidence of students.

Conclusion

Based on the results of the research and hypothesis testing, it can be concluded that learning using the Realistic Mathematics Education (RME) approach with the Team Assisted Individualization (TAI) instructional model influences the divergent thinking ability and self-confidence of 8th-grade students at SMP Negeri 2 Jonggat in the topic of flat-sided spatial structures. Learning using the Realistic Mathematics Education (RME) approach with the Team Assisted Individualization (TAI) instructional model influences the divergent thinking ability of 8th-grade students at SMP Negeri 2 Jonggat in the topic of flat-sided spatial structures. And then, learning using the Realistic Mathematics Education (RME) approach with the Team Assisted Individualization (TAI) instructional model influences the self-confidence of 8th-grade students at SMP Negeri 2 Jonggat in the topic of flat-sided spatial structures.

References

Akhirman & Ma'rifah, Nilna. (2019). Peningkatan Kemampuan Berpikir Kreatif Matematik melalui Penerapan Pembelajaran Kooperatif Tipe TAIdan Soal Open Ended. *Jurnal Pendidikan Matematika Raflesia*. 4(1), 36-43. https://ejournal.unib.ac.id/index.php/jpmr.

Amiruddini, A., Supandi, & Purwati, H. (2020). Analisis Kemampuan Berpikir Kreatif Siswa dengan Pendekatan *Realistic Mathematics Education* (RME). *IMAJINER*, 167-175.

Andriyana, Usman, & Helmi. (2022). Analisis Kemampuan Berpikir Divergen Siswa Kelas VIII Pada Mata Pelajaran IPA (Fisika) SMPN di Kabupaten Enrekang. *Jurnal Sains dan Pendidikan Fisika (JSPF)*, 193- 203.

Ariffah, E. Y. N., & Rusnilawati. (2023). The Effect of Realistic Mathematics Education Approach Assisted by Interactive Multimedia Articulate Storyline on Reasoning Ability and Self Confidence. *Jurnal Ilmiah Pendidikan dan Pembelajaran*, 7(1), 1-9.

Arofah, L., & Hidayati, N. (2021). Analisis Tingkat Kepercayaan Diri Siswa dalam Pembelajaran Matematika di SMP. *Jurnal Pendidikan Matematika*, 328- 335.

Asdar., Arwadi, F., & Rismayanti. (2021). Pendekatan Pendidikan Matematika Realistik Terhadap Hasil Belajar Matematika dan *Self-confidence* Siswa SMP. *PLUSMINUS: Jurnal Pendidikan Matematika*, 1(1), 1-16.

Asmara, A. S., Fitri, A., Anwar, A. S., & Muhtarulloh, F. (2022). Peningkatan Kemampuan Berpikir Kreatif dengan Konteks Budaya Lokal Karawang Menggunakan *Realistic Mathematics Education* Pada Masa Pandemi**.** *SJME (Supremum Journal of Mathematics Education)*, 6(1), 85-92.

Astra, I.M., Wiratama, W., and Sugandi, D. (2022). "Pengaruh Pendekatan Realistic Mathematics Education (RME) terhadap Kreativitas Matematis Siswa". *Journal of Education Research and Evaluation*, 6(3), 234-245.

Butler-Kisber, L. (2010). *Qualitative Inquiry: Thematic, Narrative and Arts- Informed Perspectives.* New York: SAGE Publications.

Chen, Y., Chang, W., & Kuo, C.-C. (2016). A comparative study of the divergent problem solving abilities of mathematically and scientifically talented students and nongifted students. *Thinking Skills and Creativity*, 22, 247-255. https://doi.org/10.1016/j.tsc.2016.10.009.

Darwis, M., Awi, & Akib, M. (2017). Efektivitas Model Pembelajaran Kooperatif Tipe *Team Assisted Individualization* dengan Pendekatan Matematika Realistik. *Jurnal Inovasi Pendidikan Matematika*, 143-156.

Delina, D., Afrilianto, M., & Rohaeti, E. E. (2018). Kemampuan Berpikir Kritis Matematis dan Self-Confidence Siswa SMP Melalui Pendekatan Realistic Mathematic Education. *Jurnal Pembelajaran Matematika Inovatif*, 1(3), 281-288.

Dewi, L. P., Budiyono, & Riyadi. (2015). Eksperimentasi model pembelajaran kooperatif tipe Team Assisted Individualization dan Teams Games Tournament dengan pendekatan Realistic Mathematics Education pada materi luas permukaan dan volume bangun ruang ditinjau dari Adversity Quotient. *Jurnal Pembelajaran Matematika*, Vol. 3, No. 10, halaman 965-980.

Dinar, I. (2019). Penerapan Bahan Ajar Matematika Berbasis RME Terhadap Kemampuan Pemahaman Konsep Matematis dan *Self-confidence* Siswa Pada Materi Trigonometri. *Jurnal PEKA*, 58-64.

Ekowati, R., Darwis, S., Upa, A., & Tahmir, M. (2015). Efektivitas model pembelajaran RME menggunakan media Monopoli Matematika untuk meningkatkan kemampuan berpikir kreatif pada materi bangun ruang di kelas VIII SMP. Inspiratif: J*urnal Pendidikan Matematika*, 3(2), 81-94.

Faridah, N. S., & Ratnaningsih, N. (2019). Analisis Kemampuan Divergen Siswa dalam Menyelesaikan Masalah Open-Ended. *Makalah Disajikan dalam Prosiding Seminar Nasional & Call For Papers Program Studi Magister Pendidikan Matematika Universitas Siliwangi*, 438-443.

Guilford, J. P. (1968). *Intelligence, Creativity, and Their Educational Implications.* San Diego: Robert R. Knapp.

International Association for the Evaluation of Educational Achievement (IEA). (2019). TIMSS 2019 International Results in Mathematics and Science.

Kusumawati, D. (2023). *Panduan Uji Reliabilitas dengan Cronbach's Alpha*. Jakarta: Penerbit Akademika.

Martyanti, Adhetia. (2016). Keefektifan Pendekatan Problem Solving dengan Setting STAD dan TAI Ditinjau dari Prestasi dan *Self-confidence. Jurnal Riset Pendidikan Matematika*,3(1),1-15.

Munandar, S. (1999). *Pengembangan Kreativitas Anak Berbakat.* Jakarta: Rineka Cipta.

Ningsih, S. P., & Warmi, A. (2021). Analisis Kepercayaan Diri (*Self-confidence*) pada Pembelajaran Siswa SMP. *MAJU*, Volume 2, No.8, 621-628.

Nurdin, A. (2020). Model TAI Konstruktivisme Meningkatkan Kemampuan Berpikir Kreatif Matematika di SMP 4 Kudus**.** *Jurnal Bhakti Pendidikan Indonesia*, 2(3), 113-127.

Octaningrum, E., & Widjajanti, D. B. (2019). Pembelajaran Kooperatif dalam Pendekatan Penemuan Terbimbing Ditinjau dari Prestasi Belajar, Kemampuan Berpikir Kritis, dan Kepercayaan Diri**.** *PYTHAGORAS: Jurnal Pendidikan Matematika*, 14(2), 150-162.

Palinussa, A. L. (2020). Comparison of Algebra Learning Outcomes Using Realistic Mathematics Education (RME), Team Assisted Individualization (TAI) and Conventional Learning Models in Junior High School 1 Masohi. *Infinity Journal*,9(2),173.https://doi.org/10.22460/infinity9i2.p173-182.

Pertiwi, C. M. (2019). Enhancing Mathematical Reasoning Ability and Self Confidence Students' through Realistic Mathematics Education Approach with Geogebra**.** *Prosiding NaCoME 2019, Palembang, 27 November 2019*, 30-37.

Purnama, A.N., Agus, I., & Halistin. (2023). Efektivitas Pendekatan Pembelajaran RME dalam Meningkatkan Hasil Belajar Matematika Siswa. *Jurnal Penelitian Pembelajaran Matematika Sekolah (JP2MS)*, 7(1). 1-9.

Putra, Y. (2020). Pembelajaran dengan Realistic Mathematics Education (RME) efektif ketika diseting dengan pembelajaran kooperatif tipe Team Assisted Individualization (TAI). *Jurnal Pendidikan Matematika*, Vol. 8, No. 2, halaman 123-135.

Putri, A. R. (2016). Kemampuan Berpikir Divergen Keterampilan Proses Sains Aspek Biologi Siswa SD Berdasarkan Lokasi Sekolah. *Jurnal Pendidikan Biologi*, 5(5), 39-50.

Rumahorbo, D., Manurung, S., & Tambunan, L. O. (2022). Pengaruh Pendekatan Pembelajaran Matematika Realistik Terhadap Kemampuan Berpikir Kreatif Matematis Siswa di Kelas VII SMP Swasta Trisakti Pematangsiantar.*Jurnal Pembelajaran dan Matematika Sigma (JPMS)*, 8(2), 249-258.

Sharan, S. (2014). Cooperative learning for academic and social gains: valued pedagogy, problematic practice. *European Journal of Education*, 49(2), 168-180.

Slavin, R. E. (2015). *Cooperative Learning: Teori, Riset, dan Praktik.* Bandung: Nusa Media.

Sugiantoro & Achmadi Hasyim. (2019). Penerapan Model Pembelajaran Kooperatif Tipe *Team Assisted Individualization* (TAI)untuk Meningkatkan Aktivitas dan Hasil Belajar. *Ejournal Undiksha*.

Suhendri, H. (2012). The Influence of *Self-confidence* on the Performance of Employees. *Journal of Business and Management*, 1-8.

Surya, I., & et al. (2017). The Relationship between *Self-confidence* and Academic Achievement of Students in Mathematics Education. *Journal of Education and Practice*, 1-7.

Treffers, A. (1993). Wiskobas Freudenthal Realistic Mathematics Education. Utrecht: CD-ß Press.

Utami, W., & Ilyas, M. (2019). Penerapan Pendekatan *Realistic Mathematics Education* untuk Meningkatkan Kemampuan Berpikir Kreatif Matematika Siswa Kelas VIII SMP Negeri 1 Palopo**.** *Pedagogy*, 4(2), 86-96.

Van den Heuvel-Panhuizen, M., & Drijvers, P. (2020). *Realistic Mathematics Education*. *In Realistic Mathematics Education*, 521-525.

Weisberg, R. (2006). *Creativity: Understanding innovation in problem solving, science, invention, and the arts*. Washington: John Wiley & Sons.

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