

**PENGARUH *REALISTIC MATHEMATICS EDUCATION* TERHADAP
KEMAMPUAN BERPIKIR KRITIS DAN KREATIF MATEMATIS:
META-ANALISIS**

TESIS

Diajukan untuk memenuhi sebagian syarat memperoleh gelar Magister
Pendidikan Program Studi Pendidikan Matematika



Oleh:

VERA ANZANI

2010203

**PROGRAM STUDI MAGISTER PENDIDIKAN MATEMATIKA
FAKULTAS PENDIDIKAN MATEMATIKA DAN ILMU
PENGETAHUAN ALAM UNIVERSITAS PENDIDIKAN INDONESIA**

2022

LEMBAR HAK CIPTA

PENGARUH *REALISTIC MATHEMATICS EDUCATION* TERHADAP KEMAMPUAN BERPIKIR KRITIS DAN KREATIF MATEMATIS: META-ANALISIS

Oleh:

Vera Anzani,S.Pd.

Sebuah tesis yang diajukan untuk memenuhi salah satu syarat memperoleh gelar
Magister Pendidikan (M.Pd) pada Program Studi Pendidikan Matematika

©Vera Anzani 2022

Universitas Pendidikan Indonesia

2022

Hak cipta dilindungi oleh undang-undang.

Tesis ini tidak boleh diperbanyak seluruhnya atau sebagian,

Dengan dicetak ulang, difoto kopi, atau cara lainnya tanpa izin dari penulis.

ii

Vera Anzani, 2022

PENGARUH *REALISTIC MATHEMATICS EDUCATION* TERHADAP KEMAMPUAN BERPIKIR KRITIS
DAN KREATIF MATEMATIS: META-ANALISIS

Universitas Pendidikan Indonesia | repository.upi.edu | perpustakaan.upi.edu

LEMBAR PENGESAHAN

**PENGARUH *REALISTIC MATHEMATICS EDUCATION* TERHADAP
KEMAMPUAN BERPIKIR KRITIS DAN KREATIF MATEMATIS:
META-ANALISIS**

Oleh:

Vera Anzani
2010203

Disetujui dan disahkan oleh:

Pembimbing I



Dr. H. Dadang Juandi, M.Si.
NIP. 196401171992021001

Pembimbing II



Dr. H. Endang Cahya MA, M.Si.
NIP. 196506221990011001

Mengetahui,

Ketua Program Studi Pendidikan Matematika



Dr. H. Dadang Juandi, M.Si.
NIP. 196401171992021001

ABSTRAK

Anzani Vera (2022). Pengaruh *Realistic Mathematics Education* terhadap Kemampuan Berpikir Kritis dan Kreatif Matematis: Meta-Analisis.

Beberapa studi meta-analisis terkait pengaruh *Realistic Mathematics Education* (RME) terhadap kemampuan berpikir matematis sudah dilakukan oleh beberapa peneliti. Namun, mereka belum mengkaji implementasi RME secara khusus terhadap kemampuan berpikir kritis dan kreatif matematis siswa jenjang sekolah dasar hingga sekolah menengah atas dan perguruan tinggi secara komprehensif. Studi ini bertujuan untuk merangkum, mengestimasi, dan menguji pengaruh implementasi RME terhadap kemampuan berpikir kritis dan kreatif matematis, serta menginvestigasi dan menguji beberapa faktor potensial yang diprediksi menjadi penyebab heterogenya kemampuan berpikir kritis dan kreatif matematis siswa dengan menggunakan studi meta-analisis. Sampel penelitian yang memenuhi kriteria inklusi sebanyak 34 studi primer terdiri dari 18 studi primer implementasi RME terhadap kemampuan berpikir kritis matematis yang memiliki pengaruh sedang, dan 16 studi primer implementasi RME terhadap kemampuan berpikir kreatif matematis yang juga memiliki pengaruh sedang. Selain itu, secara deskriptif tidak terdapat perbedaan pengaruh implementasi RME terhadap kemampuan berpikir kritis matematis dan implementasi RME terhadap kemampuan berpikir kreatif matematis siswa. Sementara itu, berdasarkan karakteristik studi yang diamati ditemukan bahwa heterogenitas kemampuan berpikir kritis matematis siswa tidak disebabkan oleh kapasitas kelas dan demografi siswa, dan heterogenitas kemampuan berpikir kreatif matematis siswa juga tidak disebabkan oleh kapasitas kelas, jenjang pendidikan dan demografi siswa. Studi ini memberikan masukan pada guru dan dosen matematika bahwa mereka sebaiknya memilih RME sebagai salah satu alternatif pembelajaran matematika untuk menumbuh kembangkan kemampuan berpikir kritis matematis siswa terutama pada jenjang pendidikan Sekolah Menengah Pertama.

Kata Kunci: Kemampuan Berpikir Kritis Matematis, Kemampuan Berpikir Kreatif Matematis, Meta-Analisis, *Realistic Mathematics Education*.

ABSTRACT

Anzani Vera (2022). The Effect of Realistic Mathematics Education on Critical Thinking and Mathematical Creative Ability: Meta-Analysis.

Several meta-analysis studies related to the effect of Realistic Mathematics Education (RME) on the ability to think mathematically have been carried out by several researchers. However, they have not studied the implementation of RME specifically on the mathematical critical and creative thinking abilities of elementary school through high school and tertiary level students in a comprehensive manner. This study aims to summarize, estimate, and examine the effect of RME implementation on critical and creative mathematical thinking abilities, as well as investigate and test several potential factors that are predicted to be the cause of the heterogeneity of students' critical and creative mathematical thinking abilities using a meta-analysis study. The research samples that met the inclusion criteria were 34 primary studies consisting of 18 primary studies of RME implementation on mathematical critical thinking skills which had a moderate effect and 16 primary studies of RME implementation on mathematical creative thinking abilities which also had a moderate effect. In addition, descriptively there is no difference in the effect of RME implementation on mathematical critical thinking skills and RME implementation on students' mathematical creative thinking abilities. Meanwhile, based on the observed study characteristics, it was found that the heterogeneity of students' mathematical critical thinking abilities was not caused by class capacity and student demographics, and the heterogeneity of students' mathematical creative thinking abilities was also not caused by class capacity, educational level, and student demographics. This study provides input to mathematics teachers and lecturers that they should choose RME as an alternative for learning mathematics to develop students' mathematical critical thinking skills, especially at the junior high school level.

Keywords: Mathematical Critical Thinking Ability, Mathematical Creative Thinking Ability, Meta-Analysis, Realistic Mathematics Education.

DAFTAR ISI

COVER	i
LEMBAR HAK CIPTA	ii
LEMBAR PENGESAHAN.....	iii
LEMBAR PERNYATAAN	iv
UCAPAN TERIMA KASIH	v
KATA PENGANTAR	vii
ABSTRAK.....	viii
ABSTRACT	ix
DAFTAR ISI	x
DAFTAR TABEL	xiii
DAFTAR GAMBAR	xv
DAFTAR LAMPIRAN	xviii
DAFTAR DOKUMENTASI	xix
BAB I Pendahuluan	1
1.1 Latar belakang dan Masalah	1
1.2 Rumusan Masalah	8
1.2 Pembatasan Masalah	9
1.4 Tujuan Penelitian	10
1.5 Manfaat Penelitian	10
BAB II Kajian Pustaka	12
2.1 Kemampuan Berpikir Kritis Matematis	12
2.1.1 Definisi Kemampuan Berpikir Kritis	12
2.1.2 Indikator Kemampuan Berpikir Kritis	13
2.1.3 Implikasi Kemampuan Berpikir Kritis	15
2.2 Kemampuan Berpikir Kreatif Matematis	16
2.2.1 Definisi Kemampuan Berpikir Kreatif	16
2.2.2 Indikator Kemampuan Berpikir Kreatif	18
2.2.3 Implikasi Kemampuan Berpikir Kreatif	19
2.3 Realistic Mathematics Education	20
2.3.1 Definisi Realistic Mathematics Education	20

2.3.2 Karakteristik Realistic Mathematics Education.....	21
2.3.3 Tahapan Realistic Mathematics Education.....	24
2.3.4 Implikasi Realistic Mathematics Education	25
2.4 Metode Meta-Analisis	26
2.4.1 Pengertian Meta-Analisis	26
2.4.2 Ukuran Efek	26
2.4.3 Model Estimasi Efek	27
2.4.4 Bias Publikasi dan Sensitivitas	28
2.4.5 Keunggulan Meta-Analisis	28
2.5 Penelitian yang Relevan	29
2.6 Kerangka Berpikir.....	33
2.7 Hipotesis	34
2.8 Definisi Operasional.....	34
BAB III Metode Penelitian	36
3.1 Desain Penelitian	36
3.2 Kriteria Inklusi	38
3.3 Strategi Pencarian Literatur	39
3.4 Seleksi Studi	39
3.5 Ekstraksi Data	40
3.6 Analisis Data	44
3.6.1 Ukuran Efek.....	44
3.6.2 Analisis Bias Publikasi dan Sensitivitas	45
3.6.3 Uji Q Cochrane dan Uji Z	45
3.6.4 Analisis Karakteristik Studi.....	46
BAB IV TEMUAN DAN PEMBAHASAN	47
4.1 Temuan	47
4.1.1 Pencarian dan Seleksi Studi	47
4.1.2 Ekstrasi Data	50
4.1.3 Bias Publikasi dan Sensitivitas	60
4.1.4 Ukuran Efek	64
4.1.5 Karakteristik Studi Pengaruh RME terhadap Kemampuan	

Berpikir Kritis Matematis	66
4.1.5.1 Kapasitas Kelas RME	67
4.1.5.2 Jenjang Pendidikan	70
4.1.5.3 Demografi Siswa	72
4.1.5 Karakteristik Studi Pengaruh RME terhadap Kemampuan	
Berpikir Kreatif Matematis	75
4.1.5.4 Kapasitas Kelas RME	75
4.1.5.5 Jenjang Pendidikan	78
4.1.5.6 Demografi Siswa	80
4.2 Pembahasan	82
4.2.1 Pengaruh RME terhadap Kemampuan Berpikir Kritis Matematis.	82
4.2.2 Heterogenitas Kemampuan Berpikir Kritis Matematis Melalui	
RME	86
4.2.2.1 Kapasitas Kelas RME	86
4.2.2.2 Jenjang Pendidikan	93
4.2.2.3 Demografi Siswa	98
4.2.3 Pengaruh RME terhadap Kemampuan Berpikir Kreatif	
Matematis	102
4.2.4 Heterogenitas Kemampuan Berpikir Kreatif Matematis Melalui	
RME	109
4.2.4.1 Kapasitas Kelas RME	109
4.2.4.2 Jenjang Pendidikan	113
4.2.4.3 Demografi Siswa	114
BAB V KESIMPULAN DAN SARAN	116
5.1 Kesimpulan.....	116
5.2 Saran	118
DAFTAR PUSTAKA	120
LAMPIRAN	136
DOKUMENTASI	184

DAFTAR PUSTAKA

- Alghafri, A. S. R., & Ismail, H. N. Bin. (2014). The Effects of Integrating Creative and Critical Thinking on Schools Students' Thinking. *International Journal of Social Science and Humanity*, 4(6), 518–525. <https://doi.org/10.7763/ijssh.2014.v4.410>
- Ali, S. A. (2016). *Critical Thinking in the Information Age: Helping Students Find and Evaluate Scientific Information* (Vol. 6, Issue 1).
- Allen, D. E., Duch, B. J., & Groh, S. E. (1996). The power of problem-based learning in teaching introductory science courses. *New Directions for Teaching and Learning*, 1996(68), 43–52. <https://doi.org/https://doi.org/10.1002/tl.37219966808>
- Ariani, D. N., & Batubara, H. H. (2017). Pengaruh Pembelajaran Matematika Realistik dengan Strategi Heuristik Krulik dan Rudnik terhadap Kemampuan Berfikir Kritis dan Prestasi Belajar Siswa Sekolah Dasar. *Muallimuna: Jurnal Madrasah Ibtidaiyah*, 2(2), 41. <https://doi.org/10.31602/muallimuna.v2i2.767>
- Arlianti, N. (2017). Hubungan Antara Interaksi Belajar Terhadap Hasil Belajar Matematika Siswa Kelas VIII SMPN 10 Sungai Penuh. *Jurnal LEMMA*, 3(2), 25–39.
- Arsaythamby, V., & Zubainur, C. M. (2014). How a Realistic Mathematics Educational Approach Affect Students' Activities in Primary Schools? *Procedia - Social and Behavioral Sciences*, 159, 309–313. <https://doi.org/10.1016/j.sbspro.2014.12.378>
- Asdarina, O. (2017). *Kemampuan Berpikir Kreatif Siswa pada Materi Desimal melalui Penerapan Pendekatan Realistic Mathematics Education (RME) di MIN Tungkop Aceh Besar: Vol. V* (Issue 1).
- Asmara, A. S., Fitri, A., & Anwar, A. S. (2022). *Peningkatan Kemampuan Berpikir Kreatif dengan Konteks Budaya Lokal Karawang Menggunakan Realistic Mathematics Education Pada Masa Pandemi*. 6(1), 85–92. <https://doi.org/10.35706/sjme.v6i>
- AYTAÇ, T., & KULA, S. S. (2020). The Effect of Student-Centered Approaches on Students' Creative Thinking Skills: A Meta-Analysis Study. *International Journal of Contemporary Educational Research*. <https://doi.org/10.33200/ijcer.723894>
- Baker, M., Rudd, R., & Pomeroy, C. (2001). Relationships between Critical and Creative Thinking. *Journal of Southern Agricultural Education Research*, 51(1), 173–188.

- Bellamy, C. (2007). Online Democratic Deliberation in a Time of Information Abundance. *Fast Capitalism*, 2(2), 121–126. <https://doi.org/10.32855/fcapital.200701.011>
- Bernard, R. M., Borokhovski, E., Schmid, R. F., Tamim, R. M., & Abrami, P. C. (2014). A meta-analysis of blended learning and technology use in higher education: From the general to the applied. *Journal of Computing in Higher Education*, 26(1), 87–122. <https://doi.org/10.1007/s12528-013-9077-3>
- Binkley. (2019). *Framework for 21st century learning definitions* (Partnership for 21st Century Learning).
- Borenstein, M. (2009). *Common mistakes in meta-analysis and how to avoid them*. John Wiley and.
- Cahyaningsih, U, & Nahdi, D. S. (2020). Peningkatan Kemampuan Berpikir Kritis Siswa Sekolah Dasar Melalui Realistic Mathematics Education. *Prosiding Seminar Nasional ...*, 286–293.
- Cahyaningsih, Ujiati, & Nahdi, D. S. (2021). The Effect of Realistic Mathematics Education on Elementary Students' Critical Thinking Skills. *Journal of Physics: Conference Series*, 1764(1). <https://doi.org/10.1088/1742-6596/1764/1/012127>
- ÇEVİKER AY, Ş., & ORHAN, A. (2020). Farklı Eleştirel Düşünme Öğretim Yaklaşımlarının Eleştirel Düşünme Becerisine Etkisi: Bir Meta Analiz Çalışması. *Pamukkale University Journal of Education*, 49, 88–111. <https://doi.org/10.9779/pauefd.561742>
- Chaffee, J. (2017). *Thinking critically* (12th ed). Cengage Learning.
- Chamberlin, S. A., & Moon, S. M. (2008). How Does the Problem Based Learning Approach Compare to the Model-Eliciting Activity Approach in Mathematics? *International Journal for Mathematics Teaching and Learning*, 366–370.
- Clark, K. K. (2005). Strategies for Building Mathematical Communication in the Middle School Classroom: modeled in Professional Development, Implemented in the Classroom. *CIME (Current Issues in Middle Level Education)*, 11(2), 1–12.
- Cleophas, T. J., & Zwinderman, A. H. (2017). Meta-analysis in a Nutshell. In *Modern Meta-Analysis*. https://doi.org/10.1007/978-3-319-55895-0_1
- Cohen, J. (1988). Statistical power analysis for the behavioral sciences, 2nd edition. In *Hillsdale: Lawrence Erlbaum*.

- Cohen, L., Manion, L., & Morrison, K. (2018). *Research Methods in Education* (8th ed.). *Routledge Taylor & Francis Group*.
- Cooper, H. M. (1982). Scientific Guidelines for Conducting Integrative Research Reviews. In *Source: Review of Educational Research* (Vol. 52, Issue 2).
- Copper, H., Hedges, L. V, & Valentine, J. C. (2019). *The handbook of research synthesis and meta-analysis, 3rd edition* (3rd ed.). Russel Sage Foundation.
- Crane, L. . (1993). Unlocking the brain's two powerful learning systems. *Human Intelligence Newsletter*.
- Cumming, G. (2012). Understanding The New Statistics: Effect Sizes, Confidence Intervals, and Meta-Analysis by Geoff Cumming. In *International Statistical Review* (Vol. 80, Issue 2). https://doi.org/10.1111/j.1751-5823.2012.00187_26.x
- Delina, Afrilianto, M., & Rohaeti, E. E. (2018). Confidence Siswa Smp Melalui Pendekatan. *Jurnal Pembelajaran Matematika Inofatif*, 1(3), 281–288. <https://doi.org/10.22460/jpmi.v1i3.281-288>
- Demirel, M., & Dagyar, M. (2016). Effects of Problem-Based Learning on Attitude: A Meta-analysis Study. *Eurasia Journal of Mathematics, Science and Technology Education*, 12(8), 2115–2137. <https://doi.org/10.12973/eurasia.2016.1293a>
- Depdiknas. (2002). *Ringkasan Kegiatan Belajar Mengajar*.
- Depdiknas. (2004). Kerangka Dasar Kurikulum 2004. In *Kemendikbud*.
- Undang-Undang Republik Indonesia Nomor 14 Tahun 2005 edisi 2009 Tentang Guru dan Dosen, Pub. L. No. 14 Tahun 2005 (2009).
- Dhayanti, D., Johar, R., & Zubainur, C. M. (2018). Improving Students' Critical and Creative Thinking through Realistic Mathematics Education using Geometer's Sketchpad. *JRAMathEdu (Journal of Research and Advances in Mathematics Education)*, 3(1), 25. <https://doi.org/10.23917/jramathedu.v3i1.5618>
- Dilla, S. C., Hidayat, W., & Rohaeti, E. E. (2018). Faktor gender dan resiliensi dalam pencapaian kemampuan berpikir kreatif matematis siswa SMA. *Journal of Mathematics Education IKIP Veteran Semarang*, 129–136.
- Duval, S., & Tweedie, R. (2000). Trim and Fill: A Simple Funnel-Plot-Based Method. *Biometrics*, 56(June), 455–463.
- Dwipayana, I. K. A. A., & Diputra, K. S. (2019). Pengaruh Pendekatan Pendidikan Matematika Realistik Berbasis Open Ended Terhadap

Kemampuan Berpikir Kreatif Siswa. *Journal of Education Technology*, 2(3), 87. <https://doi.org/10.23887/jet.v2i3.16380>

Eftafiyana, S., Nurjanah, S. A., Armania, M., Sugandi, A. I., & Fitriani, N. (2018). Hubungan Antara Kemampuan Berpikir Kreatif Matematis Dan Motivasi Belajar Siswa Smp Yang Menggunakan Pendekatan Creative Problem Solving. *Teorema*, 2(2), 85. <https://doi.org/10.25157/.v2i2.1070>

Egger, M., Smith, G. D., Schneider, M., & Minder, C. (1997). Bias in meta-analysis detected by a simple graphical test. *BMJ*, 316, pp. 469 – 477. <https://doi.org/https://doi.org/10.1136/bmj.315.7109.629>

Ennis, R. H. (2016). Critical thinking across the curriculum. *A Vision*, 37(1), 165. <https://doi.org/https://doi.org/10.1007/s11245-016-9401-4>

Ennis, R. H. (2015). In The Palgrave Handbook of Critical Thinking in Higher Education. In *Critical Thinking: A Streamlined Conception* (pp. 31–47). https://doi.org/https://doi.org/10.1057/9781137378057_2

Ennis, Robert H. (1989). Critical Thinking and Subject Specificity: Clarification and Needed Research. *Educational Researcher*, 18(3), 4–10. <https://doi.org/10.3102/0013189X018003004>

Ennis, Robert H. (1990). The Extent to Which Critical Thinking Is Subject-Specific: Further Clarification. *Educational Researcher*, 19(4), 13–16. <https://doi.org/10.3102/0013189X019004013>

Fajriah, N., & Asiskawati, E. (2015). Kemampuan Berpikir Kreatif Siswa dalam Pembelajaran Matematika Menggunakan Pendekatan Pendidikan Matematika Realistik di SMP. *EDU-MAT: Jurnal Pendidikan Matematika*, 3(2), 157–165. <https://doi.org/10.20527/edumat.v3i2.643>

Falachi, H., Kartana, T. J., & Utami, W. B. (2017). Pengaruh penerapan kompetensi pedagogik guru dalam pembelajaran matematika berbasis kurikulum 2013 terhadap prestasi belajar matematika peserta didik tahun pelajaran 2016/2017. *Axioma*, 8(1), 9–16. <https://doi.org/https://doi.org/10.26877/aks.v8i1.1508>

Fatmahanik, U. (2016). Realistic Mathematics Education (RME) dalam Meningkatkan Hasil Belajar Matematika. *Jurnal Kependidikan Dasar Islam Berbasis Sains*, 19–34.

Filsaime, D. K. (2008). *Menguak Rahasia Berpikir Kritis dan Kreatif*. Prestasi Pustaka.

Freudenthal, H. (1973). *Mathematics as an educational task*. Dordrecht: Reidel.

Glass, Gene V. (2015). Meta-analysis at middle age: A personal history. *Research Synthesis Methods*, 6(3), 221–231. <https://doi.org/10.1002/jrsm.1133>

- Glass, G. V, McGaw, B., & Smith, M. L. (1981). *Meta-analysis in social research*. Sage Publications Inc. [https://doi.org/https://doi.org/10.1016/0149-7189\(82\)90011-8](https://doi.org/https://doi.org/10.1016/0149-7189(82)90011-8)
- Gleser, L. J., & Olkin, I. (1996). Models for estimating the number of unpublished studies. *Statistics in Medicine*, 15(23), 2493–2507. [https://doi.org/10.1002/\(SICI\)1097-0258\(19961215\)15:23<2493::AID-SIM381>3.0.CO;2-C](https://doi.org/10.1002/(SICI)1097-0258(19961215)15:23<2493::AID-SIM381>3.0.CO;2-C)
- Grant, J., & Hunter, A. (2006). Measuring inconsistency in knowledgebases. *Journal of Intelligent Information Systems*, 27(2), 159–184. <https://doi.org/10.1007/s10844-006-2974-4>
- Gravemeijer. (1994). *Developing Realistic Mathematics Education*. Utrecht: Freudenthal Institute.
- Guo, X., & Cheng, L. (2019). *Challenges, core competence development and future prospects of appraisers in the VUCA era*. 351(Mmetss), 555–561. <https://doi.org/10.2991/mmetss-19.2019.112>
- Hadi. (2005). Pendidikan Matematika Realistik. *Molucca Medica*, 11(April), 13–45.
- Hakim, L. (2017). Analisis Perbedaan Antara Kurikulum Ktsp Dan Kurikulum 2013. *Jurnal Ilmiah Didaktika*, 17(2), 280. <https://doi.org/10.22373/jid.v17i2.1644>
- Halim, A., & Ahyaningsih, F. (n.d.). *MASALAH MATEMATIKA SISWA KELAS VII*. 106–114.
- Hastuti, T. S., Saripudin, D., & Yulifar, L. (2018). *THE EFFECT PROBLEM BASED LEARNING TO CRITICAL THINKING AND CREATIVE THINKING (Experiment Quasi at SMA 15 Garut)*. 216–229.
- Heuvel-Panhuizen, V. den. (1998). Realistic Mathematics Education Work in Progress. *Mathematics Education in the Netherlands a Guided Tour*.
- Heuvel-panhuizen, M. Van Den, Drijvers, P., Education, M., Sciences, B., & Goffree, F. (2014). Encyclopedia of Mathematics Education. *Encyclopedia of Mathematics Education*. <https://doi.org/10.1007/978-94-007-4978-8>
- Hidayat, W., Jayanti, K., Nurismadanti, I. F., Ikhsanuddin Akbar, M. Z., Pertiwi, K. A., & Rengganis, P. (2012). Pembelajaran Rme (Realistic Mathematics Education) Terhadap Kemampuan Berpikir Kreatif Matematik Pada Siswa Smp. *JPMI (Jurnal Pembelajaran Matematika Inovatif)*, 2(1), 41. <https://doi.org/10.22460/jpmi.v2i1.p41-50>
- Higgins, J., Thompson, S. G., Deeks, J. J., & Altman, D. G. (2003). Measuring

inconsistency in meta-analysis. *British Medical Journal*, 327, 557–560. <https://doi.org/https://doi.org/10.1007/s10844-006-2974-4>

Higgins, Julian, Altman, D. G., Gøtzsche, P. C., Jüni, P., Moher, D., Oxman, A. D., Savović, J., Schulz, K. F., Weeks, L., & Sterne, J. A. C. (2011). The Cochrane Collaboration's tool for assessing risk of bias in randomised trials. *BMJ (Online)*, 343(7829), 1–9. <https://doi.org/10.1136/bmj.d5928>

Hikayat, C., Suparman, Hairun, Y., & Suharna, H. (2020). Design of realistic mathematics education approach to improve critical thinking skills. *Universal Journal of Educational Research*, 8(6), 2232–2244. <https://doi.org/10.13189/ujer.2020.080606>

Hung, W. (2015). Problem-based learning: Conception, practice, and future. In Authentic problem-solving and learning in the 21st century. *Springer*. https://doi.org/https://doi.org/10.1007/978-981-287-521-1_5

Hunter, J. E., & Schmidt, F. L. (2004). Methods of meta-analysis: Correcting error and bias in research findings. *Sage*.

Indira, T., Somakim, S., & Susanty, E. (2018). Kemampuan Berpikir Kritis Siswa Smp Melalui Pendekatan Pendidikan Matematika Realistik Indonesia. *HISTOGRAM: Jurnal Pendidikan Matematika*, 1(2), 75. <https://doi.org/10.31100/histogram.v1i2.25>

Iskandar, J. (2015). Upaya Meningkatkan Kemampuan Berpikir Kreatif Siswa SMP Dengan Pendekatan Matematika Realistik Indonesia. *Seminar Nasional Matematika Dan Pendidikan Matematika UNY*, 861–866.

Ismunandar, D., Gunadi, F., Taufan, M., Mulyana, D., & Runisah. (2020). Creative thinking skill of students through realistic mathematics education approach. *Journal of Physics: Conference Series*, 1657(1). <https://doi.org/10.1088/1742-6596/1657/1/012054>

Istianah, E. (2013). Meningkatkan kemampuan berpikir kritis dan kreatif matematik dengan pendekatan model eliciting activities (MEAs) pada siswa SMA. *Infinity Journal*, 43–54.

Istianah, Euis. (2013). Meningkatkan Kemampuan Berpikir Kritis Dan Kreatif Matematik Dengan Pendekatan Model Eliciting Activities (Meas) Pada Siswa Sma. *Infinity Journal*, 2(1), 43. <https://doi.org/10.22460/infinity.v2i1.23>

Jannah, S. N., & Sontani, U. T. (2018). Sarana Dan Prasarana Pembelajaran Sebagai Faktor Determinan Terhadap Motivasi Belajar Siswa. *Jurnal Pendidikan Manajemen Perkantoran*, 3(1), 210. <https://doi.org/10.17509/jpm.v3i1.9457>

- Jannah, S. R., & Sunaengsih, C. (2017). Pengaruh Pendekatan Realistic Mathematics Education Berbasis Budaya Lokal Terhadap Kemampuan Berpikir Kritis Matematis. *Jurnal Pena Ilmiah*, 2(1), 801–810. <https://doi.org/10.17509/jpi.v2i1.11216>
- Jayanti, I., Arifin, N., & Nur, D. R. (2020). Analisis Faktor Internal dan Eksternal Kesulitan Belajar Matematika di Sekolah Dasar. *Jurnal Pendidikan*, 1(1), 1–7.
- Jinfa, C., & Patricia. (2000). Fostering Mathematical Thinking through Multiple Solutions. *Mathematics Teaching in the Middle School (MTMS)*, Volume 5 N.
- Juandi, D., & Tamur, M. (2021). *Pengantar Analisis Meta* (J. A. Dahlan (ed.)). UPI PRESS.
- Juandi, D., Kusumah, Y. S., & Tamur, M. (2022). A Meta-Analysis of the Last Two Decades of Realistic Mathematics Education Approaches. *International Journal of Instruction*, 15(1), 381-400.
- Kemendikbud, L. (2013). “ Melayani Semua dengan Amanah .” In *Sekolah Menengah Kejuruan* (p. No.0490/U/1992). Departemen Pendidikan dan Kebudayaan.
- Khairida, Hasratuddin, & Armanto, D. (2020). Pengembangan Model Pembelajaran Rme Berbantuan Ict Kritis Matematis Siswaan. *Edumaspul - Jurnal Pendidikan*, 4(1), 229–241.
- Kim, H. K. (2005). Can only intelligent people be creative. *The Journal of Secondary Gifted Education*, 16(2/3).
- Kong, L. N., Qin, B., Zhou, Y. qing, Mou, S. yu, & Gao, H. M. (2014). The effectiveness of problem-based learning on development of nursing students’ critical thinking: A systematic review and meta-analysis. *International Journal of Nursing Studies*, 51(3), 458–469. <https://doi.org/10.1016/j.ijnurstu.2013.06.009>
- Krejcie, R., V.Morgan, & W., D. (1996). (1970) “Determining sample Size for Research Activities”, Educational and Psychological Measurement. *International Journal of Employment Studies*, 18(1), 89–123.
- Krutetskii, V. . (1976). The Psychology of Mathematical Abilities in School Children. In *University of Chicago Press*. University of Chicago Press.
- Kusmaryono, I., & Maharani, H. R. (2021). *IMAGINATION AND CREATIVE THINKING SKILLS OF ELEMENTARY SCHOOL STUDENTS IN LEARNING MATHEMATICS : A REFLECTION OF REALISTIC*. 9(2), 287–308.

- Latifah, N. (2021). *Pengaruh Pendekatan Pendidikan Matematika Realistik Indonesia dan Model Question Student Have terhadap Kemampuan Berpikir Kritis Matematis Siswa Kelas V SDN 47/IV Kota Jambi*.
- LeBlanc, P. J. (2018). Higher Education in a VUCA World. *Change: The Magazine of Higher Learning*, 50(3–4), 23–26. <https://doi.org/10.1080/00091383.2018.1507370>
- Lestari, D., Testiana, G., & Agustiani, R. (2018). *PENDEKATAN PENDIDIKAN MATEMATIKA REALISTIK INDONESIA (PMRI). 4*.
- Liberati, A., Altman, D. G., Tetzlaff, J., Mulrow, C., Gøtzsche, P. C., Ioannidis, J. P. A., Clarke, M., Devereaux, P. J., Kleijnen, J., & Moher, D. (2009). The PRISMA statement for reporting systematic reviews and meta-analyses of studies that evaluate health care interventions: explanation and elaboration. In *Journal of clinical epidemiology* (Vol. 62, Issue 10). <https://doi.org/10.1016/j.jclinepi.2009.06.006>
- Light, R. J., & Pillemer, D. B. (1984). Summing up: The science of reviewing research. *Educational Researcher*, 15(8), 16–17.
- Lince, R. (2016). Creative Thinking Ability to Increase Student Mathematical of Junior High School by Applying Models Numbered Heads Together. *Journal of Education and Practice*, 7(6), 206–212.
- Lipsey, M. W., & Wilson, D. B. (2001). *Practical meta-analysis*. Thousand Oaks, CA: SAGE Publication Inc. <https://doi.org/https://rogeriofvieira.com/wp-content/uploads/2016/05/Wilson.pdf>
- Littell, J. H., Corcoran, J., & Pillai, V. (2008). Systematic review and meta-analysis. In *Oxford University Press*. <https://doi.org/https://doi.org/10.1016/j.medine.2017.10.012>
- Liu, Z. K., He, J., & Li, B. (2015). Critical and creative thinking as learning processes at top-ranking Chinese middle schools: possibilities and required improvements. *High Ability Studies*, 26(1), 139–152. <https://doi.org/10.1080/13598139.2015.1015501>
- Lo, C. O., & Feng, L. C. (2020). Teaching higher order thinking skills to gifted students: A meta-analysis. *Gifted Education International*, 36(2), 196–217. <https://doi.org/10.1177/0261429420917854>
- Luthfi, E., Ahsani, F., Ni'mah, L. S., & Amalia, V. (2021). Pengaruh Sarana Prasarana Dalam Menunjang Prestasi Belajar Siswa SD Di Sekolah Indonesia Den Haag. *MODELING: Jurnal Program Studi PGMI*, 8(1), 52–63.
- Magelo, C., Hulukati, E., & Djakaria, I. (2019). Pengaruh Model Pembelajaran

Open-Ended terhadap Kemampuan Berpikir Kreatif Matematik Ditinjau dari Motivasi Belajar. *Jambura Journal of Mathematics*, 2(1), 15–21. <https://doi.org/10.34312/jjom.v2i1.2593>

Manafe, V., & Oktaviany, V. (1964). *Berpikir untuk memilih Fokus yang Benar Ditinjau dari Teori Belajar Konstruktivisme*. 1–9.

Manurung, A. S., Halim, A., & Rosyid, A. (2020). Pengaruh Kemampuan Berpikir Kreatif untuk meningkatkan Hasil Belajar Matematika di Sekolah Dasar. *Jurnal Basicedu*, 4(4), 1274–1290. <https://doi.org/10.31004/basicedu.v4i4.544>

Martika, D. (2017). *Pengaruh Konsep Diri Terhadap Kemampuan Berpikir Kritis Siswa (Survey Pada Siswa IPS Kelas XI SMA Negeri 22 Bandung)*. Unpas.

McHugh, M. L. (2012). Interrater reliability: the kappa statistic. In *Biochemica Medica* (pp. 276–282).

Mike, W., & Cheung, L. (2015). *a Structural Equation Modeling Approach*. <https://doi.org/https://doi.org/10.1002/9781118957813>

Millar, C. C. J. M., Groth, O., & Mahon, J. F. (2018). Management innovation in a VUCA world: Challenges and recommendations. *California Management Review*, 61(1), 5–14. <https://doi.org/10.1177/0008125618805111>

Mirawati, M., Karjiyati, V., & Dalifa, D. (2020). Pengaruh Model RME Berbasis Etnomatematika Terhadap Kemampuan Berpikir Kritis Siswa Pada Pembelajaran Matematika Kelas V SDN Gugus 05 Kota Bengkulu. *JURIDIKDAS: Jurnal Riset Pendidikan Dasar*, 3(1), 52–60.

Miski, R. (2015). Pengaruh Sarana dan Prasarana terhadap Hasil Belajar Siswa. *Tadbir Muwahhid*, 4(2), 69–73.

Muhtadi, D., & Sukirwan, S. (2018). Implementasi Pendidikan Matematika Realistik (Pmr) Untuk Meningkatkan Kemampuan Berpikir Kreatif Matematik Dan Kemandirian Belajar Peserta Didik. *Mosharafa: Jurnal Pendidikan Matematika*, 6(1), 1–12. <https://doi.org/10.31980/mosharafa.v6i1.289>

Munandar, U. (2016). *Pengembangan Kreativitas Anak Berbakat*. Rineka Cipta.

Muslimahayati, M. (2020). Pengembangan Soal Kemampuan Berpikir Kritis Berbasis Kearifan Lokal Sumatera Selatan Pada Materi Trigonometri. *AKSIOMA: Jurnal Program Studi Pendidikan Matematika*, 9(1), 12.

Mutmainah, M. (2017). Perilaku Kepemimpinan, Iklim Sekolah Dan Sekolah Efektif. *Jurnal Administrasi Pendidikan UPI*, 24 (1), 163–172.

- Nashrullah, F. R. (2021). Kemampuan Berpikir Kritis Matematis Siswa pada Pembelajaran Realistic Mathematics Education (RME). *Jurnal Integral*, Volume 12.
- Ndiung, S. (2019). *Treffinger Creative Learning Model with RME Principles on Creative Thinking Skill by Considering Numerical Ability*. 12(3), 731–744.
- Ndiung, S., Sariyasa, Jehadus, E., & Apsari, R. A. (2021). The effect of treffinger creative learning model with the use rme principles on creative thinking skill and mathematics learning outcome. *International Journal of Instruction*, 14(2), 873–888. <https://doi.org/10.29333/iji.2021.14249a>
- Newman, M. J. (2005). Problem-based learning: An introduction and overview of the key features of the approach. *Journal of Veterinary Medical Education*, 3 (21), 12–21. <https://doi.org/https://doi.org/10.3138/jvme.32.1.12>
- Niu, L., Behar-Horenstein, L. S., & Garvan, C. W. (2013). Do instructional interventions influence college students' critical thinking skills? A meta-analysis. *Educational Research Review*, 9, 114–128. <https://doi.org/10.1016/j.edurev.2012.12.002>
- Nur, F., & Angriani, A. D. (2021). META ANALISIS: PENGARUH PENERAPAN PENDEKATAN REALISTIC MATHEMATICS EDUCATION TERHADAP HASIL BELAJAR SISWA DI SEKOLAH DASAR. AULADUNA. *Jurnal Pendidikan Dasar Islam*, 8(1), 109-120.
- Nurfadilah, S., & Hakim, D. L. (2019). *Kemandirian Belajar Siswa Dalam Proses Pembelajaran Matematika*. 1214–1223.
- Nurmalita, R. A., & Hardjono, N. (2020). Efektifitas Penggunaan Pendekatan Pendidikan Matematika Realistik (Pmr) Untuk Meningkatkan Kemampuan Berpikir Kritis Siswa Sekolah Dasar. *Jurnal Pendidikan Dan Konseling (JPDK)*, 2(1), 47–53. <https://doi.org/10.31004/jpdk.v1i2.543>
- Oktaviani, R., Harman, H., & Dewi, S. (2018). Pengaruh Pendekatan Realistic Mathematics Education (Rme) Terhadap Kemampuan Berpikir Kritis Siswa Kelas Vii Smp Negeri 2 Kota Jambi. *PHI: Jurnal Pendidikan Matematika*, 2(1), 40. <https://doi.org/10.33087/phi.v2i1.25>
- Orwin, R. G., Vevea, J. L., & Zelinsky, N. A. M. (2019). In The handbook of research synthesis and meta-analysis (3rd ed). In *Russel Sage Foundation* (pp. 174–201). Russel Sage Foundatio. <https://doi.org/https://doi.org/10.7758/9781610448864>
- Pagi, R., Soraya, F., & Cahyana, U. (2018). Penerapan Pendekatan Realistic Mathematics Education (Rme) Untuk Meningkatkan Kemampuan Berpikir Kreatif Pokok Bahasan Pecahan Pada Siswa Kelas Iv Sdn Rawajati 06 Pagi. *Jurnal JPSD (Jurnal Pendidikan Sekolah Dasar)*, 5(1), 87–94.

<https://doi.org/10.12928/jpsd.v5i1.12569>

- Palobo, M., & Tembang, Y. (2019). Analisis Kesulitan Guru Dalam Implementasi Kurikulum 2013 Di Kota Merauke. *Sebatik*, 23(2), 307–316. <https://doi.org/10.46984/sebatik.v23i2.775>
- Paradesa, R. (2016). *Jurnal Pendidikan Matematika JPM RAFA Vol.1, No.2, Desember 2015 306. 1(2)*, 306–325.
- Pehkonen, E. (1992). *Using Problem-Field as a Method of Change. Mathematics Education 3(1)*.
- Pehkonen, Erkki. (1997). The state-of-art in mathematical creativity. *ZDM - International Journal on Mathematics Education*, 29(3), 63–67. <https://doi.org/10.1007/s11858-997-0001-z>
- Permatasari, G. A., Veronica, R. B., & Susilo, B. E. (2013). *KEEFEKTIFAN PEMBELAJARAN PROBLEM POSING DENGAN SISWA Info Artikel Abstra. 2(1)*.
- Puspita, V., Yuhelman, N., & Rifandi, R. (2018). Dampak Pendekatan Realistic Mathematics Education terhadap Keterampilan Berpikir Kritis pada Siswa Sekolah Dasar [Impact of Realistic Mathematics Education Approach on Critical Thinking Skills in Elementary School Students]. *Justek : Jurnal Sains Dan Teknologi, 1(2)*, 20–25.
- Puspitasari, R. Y., & Airlanda, G. S. (2021). Meta-Analisis Pengaruh Pendekatan Pendidikan Matematika Realistik (PMR) Terhadap Hasil Belajar Siswa Sekolah Dasar. *Jurnal Basicedu*.
- Puteri, R. U., & Prasetyo, A. P. (2017). Pengaruh kompetensi pedagogik guru terhadap prestasi belajar matematika siswa. *Management, 4(3)*, 2494–2498.
- Ramadhani, M. H., Lampung, U., & Lampung, U. (2017). *PEMBELAJARAN REALISTIC MATHEMATIC EDUCATION. 265–272*.
- Ramdani, H., & Minarni, A. (2022). META ANALISIS PENINGKATAN KEMAMPUAN BERPIKIR KREATIF MATEMATIS SISWA SMP MELALUI PENDEKATAN PEMBELAJARAN MATEMATIKA REALISTIK (PMR). *Jurnal Inspiratif, 8(2)*, 18–31.
- Undang-Undang Republik Indonesia No. 20 Tahun 2003 tentang Sistem Pendidikan Nasional, (2003).
- Riadi, M. (2017). Pembelajaran Realistic Mathematics Education. *Kajianpustaka.ComRetrieved (Online)*.
- Ridha, M., Ansari, B. I., Matematika, M. P., Kuala, U. S., & Aceh, B. (2019).

Peningkatan Kemampuan Berpikir Kritis Matematis Siswa Smk Melalui Pendekatan Matematika Realistik. *Jurnal Peluang*, 7(2), 34–43. <https://doi.org/10.24815/jp.v7i2.13745>

Rijal, M., Muharram, W., Suryana, Y., & P, H. O. H. (2014). *Penerapan pendekatan pembelajaran matematika realistik terhadap kemampuan berpikir kreatif dalam penyelesaian soal cerita matematika*. 77–85.

Robson, S. (2013). The analysing children's creative thinking framework: Development of an observation-led approach to identifying and analysing young children's creative thinking. *British Educational Research Journal*. <https://doi.org/doi:10.1002/berj.3033>

Rohaeti, E. E. (2010). Critical and Creative Mathematical Thinking of Junior High School Students. *Educationist*, 4(2), 99–106.

Rosnawati, R. (2012). Berpikir kritis melalui pembelajaran matematika untuk mendukung pembentukan karakter siswa. *Seminar Nasional Pendidikan*, 1–9.

Rosyada, D. (2004). *Paradigma pendidikan demokratis: sebuah model pelibatan masyarakat dalam penyelenggaraan pendidikan*. Prenada Media.

Rothstein, H. R., Sutton, A. J., & Borenstein, M. (2005). Publication bias in meta-analysis: Prevention, assessment and adjustments. *John Wiley and Son Ltd*. <https://doi.org/https://doi.org/10.1002/0470870168>

Rudyanto, H. E., Ghufro, A., & Hartono. (2019). Use of integrated mobile application with realistic mathematics education: A study to develop elementary students' creative thinking ability. *International Journal of Interactive Mobile Technologies*, 13(10), 19–27. <https://doi.org/10.3991/ijim.v13i10.11598>

Ruseffendi, E. . (2001). Evaluasi Pembudayaan Berpikir Logis Serta Bersikap Kritis dan Kreatif melalui Pembelajaran Matematika Realistik. In *Makalah disampaikan pada Lokakarya di Yogyakarta: tidak diterbitkan*.

Sabandar, J. (2007). Berpikir Reflektif. *Makalah Pada Seminar Tingkat Nasional FPMIPA UPI Bandung*.

Saleh, M. (2012). *PEMBELAJARAN KOOPERATIF DENGAN PENDEKATAN PENDIDIKAN MATEMATIKA REALISTIC (PMR)*. 13, 2.

Saminanto. (2011). *Aplikasi Realistic Mathematics Education Dalam Pembelajaran Matematika di SMP* (Ismail (ed.); I). Walisongo Press.

Sanabria, J. C., & Arámburo-Lizárraga, J. (2017). Enhancing 21st century skills with AR: Using the gradual immersion method to develop collaborative

creativity. *Eurasia Journal of Mathematics, Science and Technology Education*, 13(2), 487–501. <https://doi.org/10.12973/eurasia.2017.00627a>

- Sanders, S. (2016). Critical and Creative Thinkers in Mathematics Classrooms. *Journal of Student Engagement: Education Matters*, 6(1), 19.
- Saragih, S. (2008). Mengembangkan keterampilan berfikir matematika. *Semnas Matematika Dan Pendidikan Matematika*, 2(2), 310–327.
- Sardiman. (2001). *Interaksi dan Motivasi Belajar Mengajar*. PT. RajaGrafindo Persada.
- Saregar, A., Latifah, S., & Sari, M. (2016). *EFEKTIVITAS MODEL PEMBELAJARAN CUPS: DAMPAK TERHADAP KEMAMPUAN BERPIKIR TINGKAT TINGGI PESERTA DIDIK MADRASAH ALIYAH MATHLA ' UL ANWAR*. 05(2), 233–243. <https://doi.org/10.24042/jpifalbiruni.v5i2.123>
- Sari, O. I., & Hariastuti, R. T. (2015). *Profil Kemampuan Berpikir Kreatif Siswa SMA Negeri di Surabaya Barat*. 896–905.
- Savery, J. R. (2006). Overview of PBL: Definitions and distinctions. *Interdisciplinary Journal of Problem-Based Learning*. <https://doi.org/https://doi.org/10.7771/1541-5015.1002>
- Shelby, L. B., & Vaske, J. (2008). Understanding meta-analysis: A review of the methodological literature. *Leisure Sciences*, 30(2), 96–110. <https://doi.org/10.1080/01490400701881366>
- Shiddiq, F., & Scherer, R. (2019). Is there a gender gap? A meta-analysis of the gender differences in students' ICT literacy. *Educational Research Review*, 27, pp. 205 – 217. <https://doi.org/https://doi.org/10.1016/j.edurev.2019.03.007>
- Silver, E. A. (1997). *Fostering creativity through instruction rich in mathematical problem solving and problem posing*. 29(3), 75-.
- Siswono, T. Y. E. (2011). Level of student's creative thinking in classroom mathematics. *Educational Research and Reviews*, 6(7), 548–553.
- Soedjadi. (2000). *Kiat Pendidikan Matematika di Indonesia: Konstataasi Keadaan Masa Kini menuju Harapan Masa Depan*. didikan Tinggi, Departemen Pendidikan Nasional.
- Somakim. (2011). Peningkatan Kemampuan Berpikir Kritis Matematis Siswa Sekolah Menengah Pertama Dengan Penggunaan Pendidikan Matematika Realistik. *Forum Mipa*, 14, 43.

- Sternberg, R. J. (2009). *An expended model for effective practice in school and later in life*. Academic intelligence is not enough WICS.
- Stolp, C., Light, R. J., & Pillemer, D. B. (1985). Summing up: The Science of Reviewing Research. *Journal of Policy Analysis and Management*, 5(1), 164. <https://doi.org/10.2307/3323437>
- Suciati. (2014). *Meningkatkan Kemampuan Pemahaman Matematis Siswa SMP dengan Pendekatan Realistic Mathematic Education*. Skripsi Program Pendidikan Matematika STKIP Siliwangi Bandung: Tidak diterbitkan.
- Sun, J., & van Es, E. A. (2015). An exploratory study of the influence that analyzing teaching has on preservice teachers' classroom practice. *Journal of Teacher Education*, 66(3), 201. <https://doi.org/https://doi.org/10.1177/0022487115574103>
- Sunarto, L. (2013). *Peningkatan Keaktifan Belajar Siswa Melalui Strategi Group Investigation Pada Mapel PKn Perundang-undangan Siswa Kelas V SD 01 Gumeng Kecamatan Jenawi Kabupaten Karanganyar Tahun Pelajaran 2012/2013 Skripsi*. FKIP UMS (tidak diterbitkan).
- Sung, H.-Y., & Hwang, G.-J. (2013). A collaborative game-based learning approach to improving students' learning performance in science courses. *Computers & Education*, 43–51.
- Susilowaty, N., & Risamasu, M. (n.d.). *Increasing Student ' s Mathematical Creative Thinking Ability Through Realistic Mathematics Education (RME) and Connecting , Organizing , Reflecting , Extending (CORE) Learning Models*. 17, 150–159.
- Syah, M. (2008). *Pendidikan Suatu Pendekatan Baru*. Remaja Rosdakarya.
- Peraturan Menteri Pendidikan dan Kebudayaan Republik Indonesia No. 17 Tahun 2017 tentang Penerimaan Peserta Didik Baru pada Taman Kanak-Kanak, Sekolah Dasar, Sekolah Menengah Pertama, Sekolah Menengah Atas, Sekolah Menengah Kejuruan, atau Bentuk Lain yang, (2017).
- Peraturan Menteri Pendidikan dan Kebudayaan Republik Indonesia No. 22 Tahun 2016 tentang Standar Proses Pendidikan Dasar dan Menengah, (2016).
- Tamur, M., Juandi, D., & Adem, A. M. G. (2020). Realistic Mathematics Education in Indonesia and Recommendations for Future Implementation: A Meta-Analysis Study. *JTAM / Jurnal Teori Dan Aplikasi Matematika*, 4(1), 17. <https://doi.org/10.31764/jtam.v4i1.1786>
- Taubah, R. (2018). Student Critical Thinking Viewed from Mathematical Self-efficacy in Means Ends Analysis Learning with the Realistic Mathematics Education Approach. *Unnes Journal of Mathematics Education Research*, 7(2), 189–195.

- Thalheimer, W., & Cook, S. (2002). Effect_Sizes_pdf5.pdf. *Work Learning Research, August*, 1–9.
- Treffers, A. (1978). Wikobas doelgericht. *IOWO, Utrecht*.
- Trisnadati, I. (2018). Komparasi pendekatan matematika realistik dengan model PBL dan PjBL ditinjau dari kemampuan interpersonal, berfikir kritis, dan prestasi belajar. *Pythagoras: Jurnal Pendidikan Matematika*, 13(1), 99–109. <https://doi.org/10.21831/pg.v13i1.21219>
- Üstün, U., & Eryilmaz, A. (2014). Etkili Araştırma Sentezleri Yapabilmek için Bir Araştırma Yöntemi: Meta-Analiz. *Eğitim ve Bilim*, 39(174), 1–32. <https://doi.org/10.15390/EB.2014.3379>
- Utami, F. N., & Indarini, E. (2021). Meta Analisis Pengaruh Pendekatan Matematika Realistik Terhadap Kemampuan Berpikir Kritis Pada Matematika Siswa di Sekolah Dasar. *Jurnal Basicedu*, 5(2), 887–894. <https://doi.org/10.31004/basicedu.v5i2.852>
- Undang-Undang-Nomor-14-Tahun-2005.pdf.
- Van den Heuvel-Panhuizen, Drijvers, P. (2020). Realistic Mathematics Education. In S. Lerman (Ed.). In *Encyclopedia of Mathematics Education*. Springer, Cham. https://doi.org/https://doi.org/10.1007/978-3-030-15789-0_170
- Voogt, J., & Roblin, N. P. (2012). A comparative analysis of international frameworks for 21 st century competences: Implications for national curriculum policies. *Journal of Curriculum Studies*, 44(3), 299–321. <https://doi.org/10.1080/00220272.2012.668938>
- Wajdih, M. F., Kusumayanti, A., Latuconsina, N. K., & Nursalam, N. (2020). Meta-Analisis Pembelajaran Realistic Mathematics Education (Rme) Terhadap Hasil Belajar Matematika. *Al Asma : Journal of Islamic Education*, 2(2), 285. <https://doi.org/10.24252/asma.v2i2.17340>
- Wechsler, S. M., Saiz, C., Rivas, S. F., Vendramini, C. M. M., Almeida, L. S., Mundim, M. C., & Franco, A. (2018). Creative and critical thinking: Independent or overlapping components? *Thinking Skills and Creativity*, 27, 114–122. <https://doi.org/10.1016/j.tsc.2017.12.003>
- Wicaksono, W. A., & Kusumaningsih, W. (2021). Kemampuan Berpikir Kreatif Matematis dengan Model Cycle Learning dan Reciprocal Learning Berbasis Realistic Mathematics Education (RME). 3(4), 353–357.
- Wijaya, A. (2012). *Pendidikan Matematika Realistik: Suatu Alternatif Pendekatan Pembelajaran Matematika*. Graha Ilmu.

- Wijaya, E. Y., Sudjimat, D. A., Nyoto, A., & Malang, U. N. (2016). *Transformasi pendidikan abad 21 sebagai tuntutan pengembangan sumber daya manusia di era global. 1*, 263–278.
- Winkel, W. . (2007). *pendidikan dan Evaluasi Belajar*. Gramedia.
- Yanti, O. F., Charitas, R., & Prahmana, I. (2017). Model Problem Based Learning , Guided Inquiry , dan Kemampuan Berpikir Kritis Matematis. *Jurnal Review Pembelajaran Matematika*, 2(2), 120–.
- Young, M. H., & Balli, S. J. (2014). student and parent perspectives. In *Gifted and talented education. Gifted Child Today*.
<https://doi.org/doi:10.1177/10762175145>.
- Yudha, C. B., Yogyakarta, U. N., & Diri, K. (2014). *Jurnal Prima Edukasia, Volume 2 - Nomor 1, 2014. 2*, 42–56.
- Yunita, Y., Juandi, D., Tamur, M., Adem, A. M. G., & Pereira, J. (2020). A meta-analysis of the effects of problem-based learning on students' creative thinking in mathematics. *Beta: Jurnal Tadris Matematika*, 13(2), 104–116.
<https://doi.org/10.20414/betajtm.v13i2.380>
- Zamroni, & Mahfudz. (2009). *Panduan Teknis Pembelajaran Yang Mengembangkan Critical Thinking*. Depdiknas.
- Zuldafrial, Z., & Bohari. (2014). Pengaruh Heterogenitas terhadap Hasil Belajar Program Studi Pendidikan Sejarah STKIP PGRI Pontianak. *Edukasi: Jurnal Pendidikan*, 12(2), 267–281.