

# The Preliminary Research of Development of Mathematics Learning Model Based Realistic Mathematical Education and Literacy in Junior High School

Rusdi<sup>(1\*)</sup>, I Made Arnawa<sup>(2)</sup>, Ahmad Fauzan<sup>(3)</sup>, Lufri<sup>(4)</sup>

- (1) IAIN Bukittinggi
- (2) Universitas Negeri Padang
- (3) Universitas Negeri Padang
- (4) Universitas Negeri Padang
- (\*) Corresponding Author

## Abstract

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*The research was due to Indonesian students' literacy in mathematics was unsatisfying according to Programme for International Student Assessment. The aim of this research was to gain needs and context analysis, and literature review which based on the prominence to develop a learning model. This research belonged to descriptive study. Based on data analyzed, the findings revealed that 1. The average value of students' mathematical literacy was 31.87 be classified into low category; 2. The assessment instruments was far from the mathematical literacy; 3. The realistic mathematics education approach ever developed by the researcher in learning mathematics had not been combined with the concept of literacy; 4. The teachers needed the learning models that could improve students' mathematical literacy; 5. The students wanted contextual learning, 6) most students liked reading with audio learning styles; 7. The curriculum content which had to appropriate with the development of this model was the Linear Equation System of Two Variable; 8. The main concept was the general form of Linear Equation System of Two Variables, solution with graph, substitution and elimination. Based on these findings, the researcher needed to develop mathematics learning model based on realistic mathematical education and literacy in junior high school.*

## Keywords

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realistic mathematical education, mathematical literacy

## References

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- Abidin, Yunus. 2014. Desain Sistem Pembelajaran dalam Konteks Kurikulum 2013. Bandung: Refika Aditama.
- Gravemeijer, K. P. E. (1994). Developing Realistic Mathematics Education. Utrecht: Freudenthal Institute.
- Joyce, Bruce and Weil, M. arsha. (1992). Modells of Teaching. Boston: Alyn & Bacon.

Kemendikbud. (2017). Matematika. SMP/MTs Kelas VIII Semester I.

Kemendikbud. (2017). Model Silabus Mata Pelajaran Sekolah Menengah Pertama/Madrasah Tsanawiyah (SMP/MTs). Mata Pelajaran Matematika. Jakarta: Kemendikbud.

Kusumadhani D.N, Waluya, S. B dan Rusilowati A. (2015). Mathematics Literacy Based on Adversity Quotient on the Discovery Learning and Guilford Approach. Sutikno, Widiyatmoko A, Masturi, Purwinarko A, (Eds.) Proceeding of International Conference on Mathematics, Science, and Education. Applied Research of Mathematics and Natural Sciences to Improve Its Usefulness for Knowledge and Society. Semarang, 5-6 September 2015. Faculty of Mathematics and Natural Sciences Semarang State university (ME-18).

Kusumah, Yaya S. (2011). Literasi Matematis. Noer, S. H, Rosyidin, U, Fadiawati, N, Hasnunidah, N, (Eds.) Prosiding Seminar Nasional Pendidikan MIPA. Pengembangan Pembelajaran MIPA Berorientasi Soft Skill Universitas. Bandar Lampung, 26 November 2011. PMIPA FKIP Universitas Lampung (U-1).

Kusumah, Yaya S. (2018). Meningkatkan Kemampuan Berpikir Tingkat Tinggi Siswa dalam Pembelajaran Matematika di Sekolah Menengah. Prosiding Seminar Nasional dan Pendidikan Matematika. Hot Skill in Mathematics Education. STKIP PGRI Sumatera Barat.

Lin, Su-Wei dan Tai, Wen-Chun. (2015). Latent Class Analysis of Students' Mathematics Learning

Mahdiansyah dan Rahmawati. (2014). Literasi Matematika Siswa Pendidikan Menengah: Analisis Menggunakan Desain Internasional dengan Konteks Indonesia. Jurnal Pendidikan dan Kebudayaan, Vol. 20, Nomor 4, hlm. 452-459.

Musdi, Edwin. (2014). Pengembangan Model Pembelajaran Geometri Berbasis Pendidikan Matematika

OECD. (2003). First Results From PISA 2003 Executive Summary. OECD Publishing.

Su OECD. (2013). PISA 2012 Assessment and Analytical Framework: Mathematics, Reading, Science, Problem Solving and Financial Literacy. OECD Publishing.

Plomp. (2013). Educational Design Research. An Introduction. In Tjeer Plom and Nienke Nieveen (Ed). Educational Design Research. Part A: An Introduction SLO. Netherland Institute for Curriculum Development.

Realistik SMPN Kota Padang. Disertasi, UNP Padang.

Rusdi. et al. (2018). The need analysis development of mathematics learning model based realistic mathematical education and literacy in junior high school. Proceeding ICESST 2018 International Conferences on Education, Social Sciences and Technology DOI: <https://doi.org/10.24036/XXXXX> Website: <http://icesst.fipunp.ac.id> Padang, February 14th - 15th 2018

Sari, Rosalia H. N. (2015). Literasi Matematika: Apa, Mengapa dan Bagaimana? Prosiding Seminar Nasional Matematika dan Pendidikan Matematika, UNY.

Stacey, K dan Turner, R. (2015). Assessing Mathematical Literacy, The PISA Experience. Australia: Springer.

Strategies and the Relationship between Learning Strategy and Mathematical Literacy. Universal Journal of Educational Research 3(6): 390-395.

Supardi. (2013). Aplikasi Statistika dalam Penelitian. Konsep Statistika yang Lebih Komprehensif. Jakarta: Change Publication.

Treffers, A. (1987). Three Dimentions. A Model of Goal and Theory Description in Mathematics Instruction – The Wiskobas Project. Dordrecht: Reidel Publishing Copany.

Wardhani, S dan Rumiati. (2011). Instrumen penilaian hasil Belajar Matematika SMP: Belajar dari PISA dan TIMSS. Jakarta, Kemendiknas.

Wijaya, Ariyadi. (2012). Pendidikan Matematika Realistik. Suatu Alternatif Pendekatan Pembelajaran Matematika. Yogyakarta:

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