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Realistic Mathematics Education Approach in Junior High School Mathematics Learning in Indonesia (2010-2024): A Bibliometric Analysis

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ABSTRACT

RME adalah sebuah pendekatan pengajaran yang dimulai dari hal-hal yang 'nyata' bagi siswa. Hal ini relevan dengan pendidikan saat ini yang tidak hanya berfokus pada pengetahuan akademis tetapi juga pada pengembangan keterampilan yang relevan untuk dunia kerja dan kehidupan sehari-hari. Tujuan dari artikel ini adalah untuk mengetahui tren penelitian mengenai pendekatan pendidikan matematika realistik dalam pembelajaran matematika di sekolah menengah dan untuk mengetahui topik-topik penelitian yang berpotensi untuk dijadikan penelitian di masa yang akan datang. Metode yang digunakan dalam penelitian ini adalah analisis bibliometrik. Data penelitian diperoleh melalui perangkat lunak Harzing's Publish or Perish dengan basis data Google Scholar, kata kunci realistic mathematics education dan sekolah menengah pertama, dan jumlah hasil maksimal "1000". Artikel yang diperoleh sebanyak 960 artikel dengan periode 2010-2024. Kemudian, dibatasi pada jurnal terakreditasi scopus, sinta 2 dan sinta 3, diperoleh 99 artikel. Hasil penelitian menunjukkan bahwa tren publikasi dengan tema penelitian pendekatan realistic mathematics education mengalami peningkatan paling tinggi pada periode 2016-2018 dan 2021-2023. Selain itu, tema penelitian pendekatan realistic mathematics education yang berpeluang untuk dijadikan penelitian di masa depan memiliki dua kata kunci yaitu systematic literature review dan penalaran.

RME is an approach to teaching that starts from things that are 'real' for students. This is relevant to current education, This focuses squarely on academic knowledge as well as development of relevant skills for the world of work and everyday life. The purpose of this article is to find out the research trends regarding the realistic approach to mathematics education in secondary school mathematics learning and to find out the research topics that have the potential to be used as research in the future. The method used in this research is bibliometric analysis. The research data was obtained through Harzing's Publish or Perish software with Google Scholar database, the keywords realistic mathematics education and junior high school, and the maximum number of results "1000bstract and keywords are written in English and Bahasa Indonesia. The articles obtained were 960 articles with a period of 2010-2024. Then, restricted to Scopus-accredited journals, sinta 2 and sinta 3, 99 articles were obtained. The results showed that the publication trend with the research theme of an RME approach experienced the highest increase between 2016-2018 and 2021-2023. In addition, the research theme of the RME approach, which has the opportunity to be used as research in the future, has two keywords, namely systematic literature review, and reasoning.

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INTRODUCTION

Education today focuses not only on academic knowledge but also on developing relevant skills for work and everyday life. RME is an approach to teaching that starts with things that are 'real' to students and emphasizes the process skills of discussing, collaborating, and arguing with classmates so that they can find their concepts in solving mathematical problems (Nuraida, 2018). In this context, RME has been shown to facilitate the development of key skills in students, This includes thinking critically, working together, solving problems and communicating. These skills are considered to be of particular importance in the 21st-century world (Susandi & Khoiriyah, 2024).

The RME approach is predicated on the premise that students should be afforded greater opportunities for active learning, with learning being more centered on the student. RME is predicated on the following five characteristics of mathematics as a human activity: "(1) Using different situations to help students learn; (2) Using examples to help students learn; (3) Using what students have already learned to help them learn more; (4) Making teaching interactive; (5) Connecting different types of learning." (Gravemeijer, 2004). Furthermore, learning that is grounded in RME will reflect the teaching process with guided reconstruction, wherein the teacher will provide opportunities for students to explore their mathematical concepts and perform mathematically from real-world problems (Ningsi et al., 2024). This approach aligns with the independent curriculum policy, which calls for educators to link learning materials with situations and problems that are pertinent to students' real lives. This approach mirrors the principles of RME, which emphasizes contextualisation as a key element in mathematics education.

A significant benefit of RME is how it establishes a nexus between human activities and mathematical concepts, thereby underscoring the relevance of mathematical problems to everyday situations (Lu Pien, 2013). By the principles of RME, students must be instructed in mathematics within the context of its application. Consequently, RME-based pedagogical approaches necessitate a transformation in the prevailing teaching methodologies (Sembiring et al., 2008). The design and organization of learning activities must be such to challenge students, fostering independence and the development of critical thinking skills, thereby enabling them to solve problems more effectively as 'mathematicians' (Phan et al., 2022).

Research has demonstrated the efficacy of RME in facilitating comprehension of abstract mathematical concepts among students with average or below-average ability (Sembiring et al., 2008). Furthermore, research has demonstrated that the implementation of RME can enhance the level of active participation exhibited by students within the classroom environment. The augmentation of active participation on the part of learners has been shown to engender greater flexibility in learning programs (Revina & Leung, 2019). In the context of Indonesian education, such programmes are designated as PMRI (Indonesian Realistic Mathematics Education), alternatively known as Education (Indonesian Realistic Mathematics Education) (Prahmana et al., 2020).

A study of RME in junior high school, incorporating bibliometric analysis and associated fields of enquiry, yielded several findings from 2010 to 2024. Research related to the theme includes SLR on RME to improve students' mathematical thinking skills (Iskandar & Juandi, 2022), bibliometric review on RME in Scopus from 1972-2019 (Phan et al., 2022), meta-analysis study on RME in the last two decades (Juandi et al., 2022), SLR study on linear programming learning activities (Octaria et al., 2023), and SLR on the proportions of RME and PMRI (Risdiyanti et al., 2024). The present study constitutes an inaugural investigation into the utilization of bibliometric analysis in the context of RME in junior high school.

RME is employed as a model or approach to learning mathematics in junior high school. It is characterised by its increased contextual relevance, enabling students to establish connections between mathematical concepts and real-world scenarios (Altıner et al., 2023). Junior high school in Indonesia (SMP level) represents a transitional stage in the education system, at which foundational mathematical concepts are developed further. It is argued that RME (Realistic Mathematics Education) is particularly salient and suitable for this stage due to the following reasons: The abstract nature of topics such as algebra, geometry, and statistics, and the importance of contextual learning to bridge concrete and

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abstract thinking (Uhurata et al., 2014). Government policies or educational reforms in Indonesia (e.g., the Merdeka Curriculum) that emphasized RME principles specifically in junior high mathematics.

Given the aforementioned background information, the objective of the present study is to ascertain the RME approach in junior high school learning. Posts that the RME approach has undergone a paradigm shift, with the emergence of RMEng (Realistic Mathematics Engineering) as a novel integration of the RME methodology with engineering design process procedures in the primary school mathematics curriculum (Listyaningrum et al., 2025). Consequently, the researcher has decided to limit the scope of this study to junior high school.

To this end, a further review of the extant literature is required to refine the research question. The way the research problem was put and the purpose of this study are to identify the research trends of the RME approach in junior high school learning and to determine the research themes of the RME approach in junior high school learning that have the potential to be utilized in future research.

METHOD

The present research method is based on bibliometric analysis, a statistical technique that utilizes information concerning publications to analyze those in a given field (Muhammad et al., 2022). Bibliometrics can facilitate the acquisition of metadata (Donthu et al., 2021). Bibliometrics encompass the number of literature publications, the number of authors, and the number of citations, thus facilitating the comprehension of contemporary research trends and the evaluation of research influence. The Google Scholar database is utilized in conjunction with the Publish or Perish (PoP) application to identify pertinent data sources, with the caveat that the data is constrained to those from Scopus-accredited journals, Sinta 2, and Sinta 3. The stages of this research can be seen in Figure 1.

Figure 1. Structure of Research Stages

The data obtained is collated into a single file using the RIS and CSV formats, which is then entered into the VOSviewer application. Bibliometric analysis techniques can be categorized into two distinct classifications: performance analysis and mapping (Donthu et al., 2021). The performance analysis was conducted through the following metrics: the number of publications per year, documents with the most citations, institutions with the most citations, journals with the most citations, and co-use of author keywords.

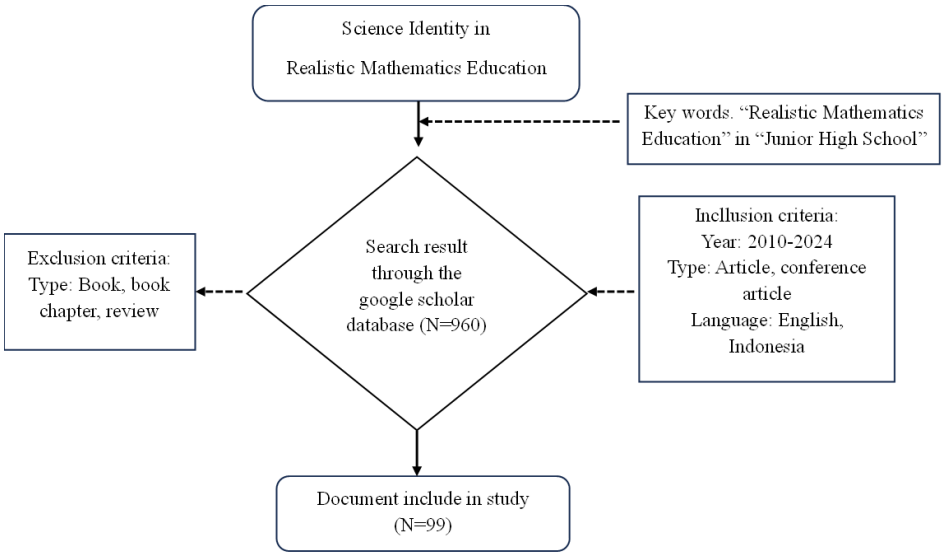

Figure 2. Literature Data Collection

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The mapping process involved the following forms of visualization: network visualization, overlay visualization, and density visualization. The researcher utilized the VOSviewer application to analyze, visualize, and evaluate all information about publications associated with the Realistic Mathematics Education (RME) approach in junior high school mathematics learning, including country bibliographic pairs, institution bibliographic pairs, journal bibliographic pairs, and co-occurrence of author keywords.

The researcher's focus on Realistic Mathematics Education (RME) research in Indonesia precludes the use of the country bibliography pair in this study. The Publish or Perish software was utilized to identify articles pertinent to the 'Realistic Mathematics Education (RME) Approach in Junior High School Mathematics Learning' topic. The metadata obtained from this search was then filtered according to specific criteria (Trenggonowati et al., 2022). Data collection also included inclusion and exclusion criteria, as seen in Figure 2.

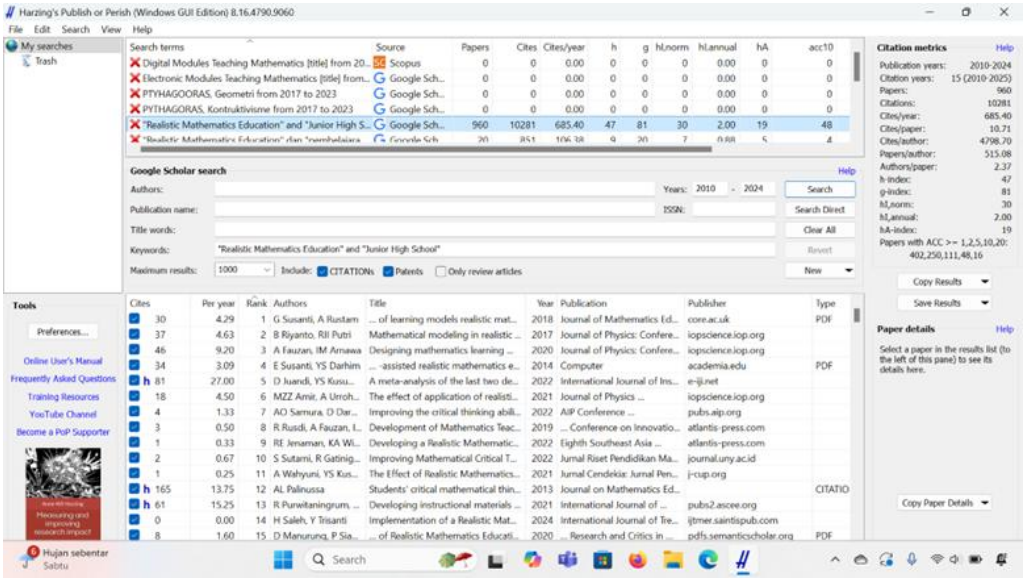

Figure 3. Metadata search through

RESULTS AND DISCUSSION

In presenting the results of the bibliometric analysis conducted in this study, reference is made to (Elili, 2022). The analysis technique employed was deductive, with the process beginning with principles that were general and concluding with particulars that were specific (Ersozlu & Karakus, 2019). The analysis commences There's a lot of documentation and citations from various countries, institutions, journals and authors, and there are shared keywords too. It should be noted that the present bibliometric analysis research was conducted in Just one country, actually: Indonesia. Therefore, the researchers initiated the analysis according to The number of citations and publications from institutions or universities should be noted, journals, and documents. This was followed by the results of the analysis of the appearance of shared keywords, which were visualized with VOSviewer.From the metadata generated through the PoP search, 960 articles were then limited to Scopus-accredited journals, Sinta 2 and Sinta 3. This process yielded 99 articles. As illustrated in Table 1, the number and distribution of article publications per year can be seen.

As demonstrated in Figure 4, the year 2023 has the highest number of publications, with 19 publications representing 19.19% of the total. There was an increase from 2016 to 2018, followed by a decrease in the subsequent years. Of the 99 publications, the majority stem from articles or journals accredited by Sinta 2, which are frequently utilized as references or cited in other studies (Supinah & Soebagyo, 2022). This suggests that the more frequently a document is cited, the more widely its research findings are used as references in other studies. Consequently, researchers utilize the number of documents and the number of citations to sort by author and source.

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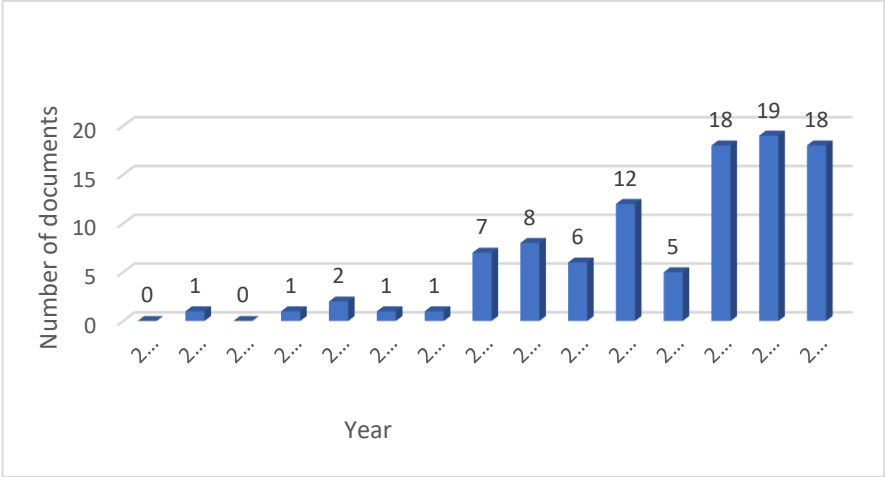

Figure 4. The following study examines the number of publications on the RME approach in junior high school mathematics learning from 2010 to 2024.

Despite the prevalence of design research in RME research in Indonesia for up to two decades, it is predicted that research utilizing the RME research design method will continue to be a subject of interest among RME researchers (Prahmana et al., 2020). This assertion is informed by the insights of , those who emphasize the pivotal role of teachers in the proactive development of RME learning scenarios and designs (Drijvers & Marja Van den Heuvel-Panhuizen, 2020). The utilization of design in research endeavours is poised to yield a local instruction theory within the learning process. The process of identifying a theory of local instruction is protracted and uninterrupted, even in the context of the same material.

Table 2. The following essay will set out the top three authors in terms of the number of publications and citations of the RME approach in junior high school mathematics learning between 2010 and 2024.

Top 3 authors in terms of documents				Top 3 authors in terms of citations			
Rating	Author	University	Documents	Rating	Author	University	Citations
1	Prahmana, Rully Charitas Indra	Universitas Ahmad Dahlan	5	1	Prahmana, Rully Charitas Indra	Universitas Ahmad Dahlan	11
2	Putri, Ratu Ilma Indra	Universitas Sriwijaya	3	2	Fauzi, Asri	Universitas Mataram	8
3	Fauzi, Asri	Universitas Mataram	2	2	Hasbi Ramdan	Universitas Sriwijaya	8
3	Risdiyanti, Irma	Universitas Ahmad Dahlan	2	2	Putri, Ratu Ilma Indra	Universitas Sriwijaya	8
3	Sari, Novita	Universitas Sriwijaya	2	3	Resyi, Yulia	Universitas Sriwijaya	8
3	Sukmaningtyas, Novika	Universitas Sriwijaya	2	3	Risdiyanti, Irma	Universitas Ahmad Dahlan	7
3	Laurens, Theresia	Universitas Pattimura	2	3	Sari, Novita	Universitas Sriwijaya	7
3	Simamora, Rustam Effendy	Universitas Borneo Tarakan	2	3	Sukmaningtyas, Novika	Universitas Sriwijaya	7

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Top 3 authors in terms of documents				Top 3 authors in terms of citations			
Rating	Author	University	Documents	Rating	Author	University	Citations
3	Nuraeni, Zuli	STKIP Muhammadiyah Kuningan	2	/	/	/	/

As demonstrated in Table 2, the three authors with the highest number of documents and citations are Rully Charitas Indra Prahmana (Mathematics), with a total of five documents and 11 citations. This finding indicates that the research outcomes of the constructivism approach are aligned with the focus and scope of the aforementioned journals. Consequently, these results are beneficial for researchers seeking to publish research document bibliography pairs related to the RME approach.

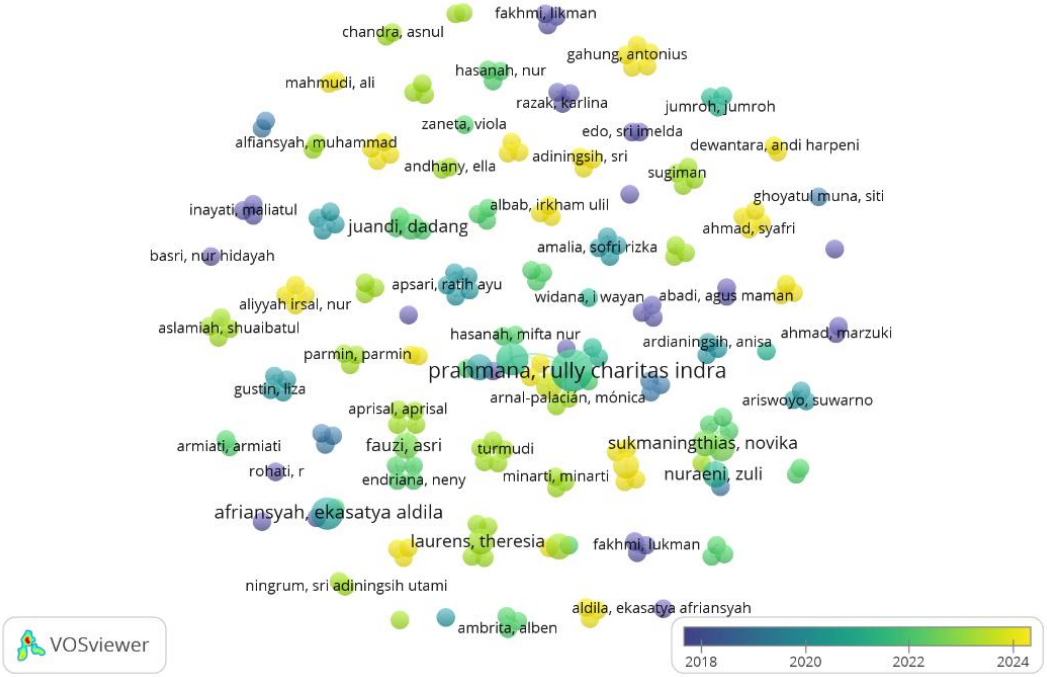

Figure 5. The following study investigates the author's mapping of the RME approach in junior high school mathematics learning from 2010 to 2024.
(The analysis encompasses 236 authors, with each author having a minimum of one document)

As illustrated in Figure 5, the document under consideration features an author pair. Of the 99 documents that have been collected, 210 authors are identified. Researchers utilize the VOSviewer application to visualize the author pairs of RME-related documents. As demonstrated in Figure 5, the colour scheme employed to denote the temporal parameters of the publication of each article is as follows: yellow for articles published in 2024, green for articles published in 2022, and blue for articles published in 2018. Consequently, the documentation presented herein can be utilized as a point of reference by future researchers examining the utilization of RME in the domain of mathematics education.

As illustrated in Table 3, the Elements Journal is the most prolific, with 14 documents. It is followed by Mosharafa: A Journal of Mathematics Education, which has 12 documents. The third most productive journal is Mathline: A Journal of Mathematics and Mathematics Education, with 9 documents. Of the three journals, two are from SINTA 2-accredited journals, while one is from a SINTA 3-accredited journal. This finding indicates a paucity of research results that discuss the RME approach in junior high school learning in journal or conference sources accredited by Scopus, Sinta 2, and Sinta 3. Concerning citations, the Journal of Physics: Conference Series is ranked first with 60 citations, the Element Journal is in second place with 45 citations, and the Al-Jabar: A Journal of Mathematics Education is in third place with 30 citations. Of the three sources cited above, one is a conference or proceedings publication, and the other is a national journal. This finding indicates a paucity of research

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results discussing the RME approach in junior high school learning in a journal or conference sources accredited by Scopus, Sinta 2, and Sinta 3.

Table 3. Top 3 references with the number of publications and citations of RME in junior high school mathematics learning (2010-2024)

Top 3 references in terms of documents				Top 3 references terms of citations			
Rating	Reference	Reference Type	Documents	Rating	Reference	Reference Type	Citations
1	Jurnal Elemen	Journal	14	1	Journal of Physics: Conference Series	Conference and Proceeding	60
2	Mosharafa: Jurnal Pendidikan Matematika	Journal	12	2	Jurnal Elemen	Journal	45
3	Mathline: Jurnal Matematika dan Pendidikan Matematika	Journal	9	3	Al-Jabar:Jurnal Pendidikan Matematika	Journal	30

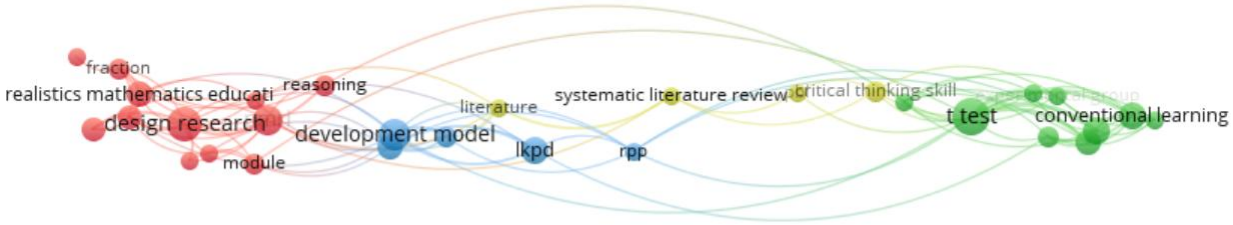

Figure 7. The visualization of keywords about their co-occurrence within networks

As illustrated in Figure 7, the network visualization of the co-occurrence of keywords demonstrates that the most frequently researched clusters are represented by the red clusters. The analysis results using VOSviewer identified four clusters containing more detailed keywords, namely:

1. The cluster of red coloration is comprised of five keywords, namely realistic mathematics education, design research, fraction, module, and reasoning.
2. The green-colored cluster comprises two keywords, namely conventional learning and t-test.
3. The blue-colored clusters are comprised of three keywords, namely development model, rpp, lkpd.
4. The yellow-colored cluster consists of 3 keywords, namely literature, systematic literature review, and critical thinking skills.

Research on RME has not yet fully incorporated other keywords, specifically the term 'fraction', as evidenced by the absence of lines that directly connect these keywords. As time elapses from 2018 to 2024, a shift in research methodologies emerges, with contextual design research transitioning to a development model and subsequently shifting to a systematic literature review. This shift in research methodologies signifies a research gap that offers an opportunity for further exploration by researchers, readers and practitioners in the field of RME, particularly in the context of learning mathematics in junior high school.

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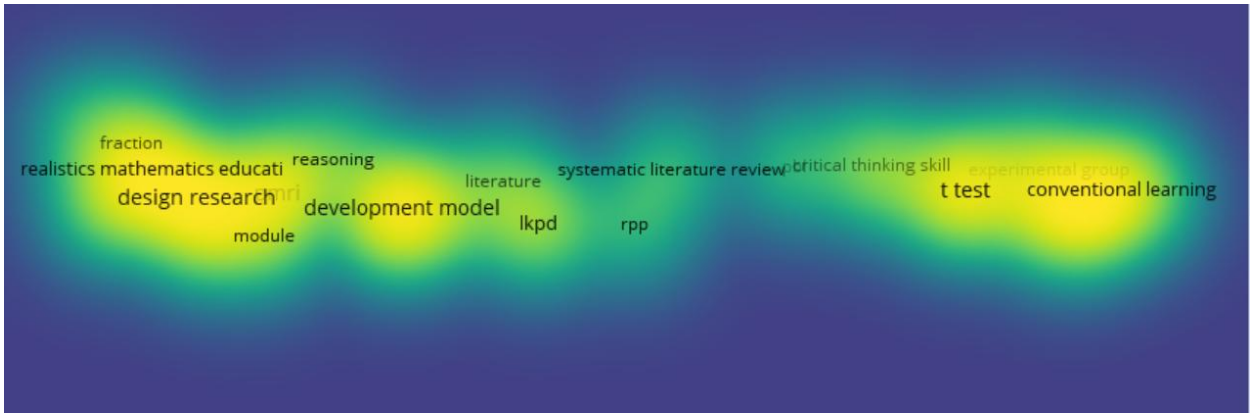

Figure 7. Density visualization

As illustrated in Figure 7, the density visualization is rendered brighter in proportion to the level of detail in the associated discussion. The color of the density can be used as an indicator of the research depth. Specifically, a bright color indicates a more extensive and well-researched discussion, while a faded color suggests limited research, particularly in the context of the RME approach to learning junior high school mathematics, which emphasizes systematic literature review and reasoning.

A review of fifteen years of research on RME in mathematics education, as documented in publications on Scopus, Sinta 2, and Sinta 3 databases, reveals a positive trend. RME is regarded as an a forward-thinking approach to teaching mathematics (Tong et al., 2022). Students taught using the RME method demonstrate higher learning outcomes in mathematical literacy skills compared to those taught using conventional methods (Ayunis & Belia, 2021). This finding aligns with the assertion that the implementation of realistic mathematics education has a substantial impact on student learning outcomes (Lailani Rahmahdhani, 2022).

RME has expanded its impact in various regions in Indonesia. This research employs bibliometric analysis techniques, utilizing 99 RME-related documents extracted from Scopus, SINTA 2, and SINTA 3 databases between 2010 and 2022 for analysis, employing the software programs Excel and VOSViewer. The investigation has focused on four aspects, aligning with the four research questions: (i) total volume, growth trajectory, and geographical distribution; (ii) The following list comprises the authors and research groups.; (iii) sources (i.e., journals, books, conferences); and (iv) The following topics are of the utmost importance.

Recent studies have indicated a notable increase in the number of RME publications, both quantitatively and geographically, in various countries worldwide. Notably, Indonesian publications have assumed a pivotal role since 2017. This achievement can be attributed to the effective educational innovation policies implemented in Indonesia, as well as its systematic international collaboration in curriculum research and implementation through various projects over the years., particularly the Netherlands Programme for the Institutional Strengthening of Post-Secondary Education and Training Capacity (NPT, period 2001- 2003) and the project Dissemination of Pendidikan Matematika Realistik Indonesia (Do-PMRI, period 2006–2010) (Zulkardi et al., 2019).

The research trend of RME remains underdeveloped, as evidenced by the limited number of publications in the past fifteen years, with less than ten journals accredited by SINTA 2 and SINTA 3. It is completely understandable given the fact the RME is a new Dutch-originated educational approach being adapted in different countries with different cultures and educational setting (Putri et al., 2024). Furthermore, the research issues are diverse, ranging from student perspectives (e.g. critical thinking, reasoning skills, problem-solving skills) to teaching content (e.g. differential equations, number patterns, percentages, square addition) and teacher perspectives and teaching activities (e.g. learning media, assessment, learning outcomes, guided discovery). The co-occurrence of keywords is dominated by developments adapting RME with research issues that are still rarely researched, namely systematic literature review and reasoning.

These findings offer future opportunities for further research on other mathematics content and junior secondary education levels. Primary school learners were found to be the dominant subjects in these RME studies compared to other education levels (Phan et al., 2022). The co-occurrence analysis of the authors' keywords showed no results for the combination of "mathematics in context" and

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"realistic mathematics education". It is evident that despite the influence of RME, the keyword 'mathematics in context' encompasses novel interpretations and manifestations of RME, thereby stimulating new growth in the field (Van Den Heuvel-Panhuizen, 2003).

CONCLUSION

This study sets out to describe and analyse The following essay will explore the developments, themes and collaborations in research in the field of RME. A total of 960 articles were obtained from the search using the keywords 'Realistic Mathematics Education' and 'Junior High School' via the Publish or Perish (PoP) software with the Google Scholar database. The publication of articles was limited to those that were accredited by Scopus, Sinta 2 and Sinta 3. The analysis of the volume of RME-related documents, alongside their chronological evolution, demonstrates that RME has received increased attention from experts in the field of mathematics education in recent years, especially after 2010. This is indeed a reflection of the growing societal demand for mathematicians and mathematics teachers to renovate mathematics teaching approaches in a more realistic direction. The search strategy, employing the keywords 'Realistic Mathematics Education' and 'Junior High School' in the search engine 'Publish or Perish' (PoP) with the Google Scholar database, yielded 960 articles. The publication of articles was limited to those that had been accredited by Scopus, Sinta 2, and Sinta 3. A total of 99 articles were published by AKSIOMA, the most prolific publisher. Notably, Prahmana was the author of the highest number of documents, with a total of five.The Journal of Physics: Conference Series emerged as the most cited source, receiving a total of 60 citations. The relationship between the keywords 'Realistic Mathematics Education' and 'Junior High School' is most commonly visualized to 'Development Model' and 'Design Research,' with 13 keywords from 4 clusters. The density visualization of the research theme of the constructivism approach in learning geometry in junior high school reveals that systematic literature review and reasoning are still rarely researched. Furthermore, the majority of the mathematics ability exhibited in RME research is mathematical understanding, with mathematics achievement following closely behind. In contrast, the characteristics of RME demonstrate that mathematical understanding and achievement are not the only mathematical abilities that can be developed. Consequently, we advocate that RME researchers undertake studies to investigate the impact of RME on diverse mathematical abilities. Furthermore, researchers in the field of RME can study mathematics abilities, as well as affective abilities. Consequently, it can be concluded that the theme of RME research in learning junior high school mathematics has the potential to be utilized as a research topic in the future. Two keywords that can be used by future researchers in data retrieval are systematic literature review and reasoning. In addition, researchers may consider using databases other than Google Scholar, such as Web of Science (WOS), for future data retrieval. Furthermore, keywords can be more detailed to further maximize bibliometric results.

REFERENCES

Altıner, E. Ç., Önal, H., & Yorulmaz, A. (2023). An Analysis of Realistic Mathematics Education Activities of Pre-service Teachers Trained with a Constructivist Approach. *Mathematics Teaching-Research Journal*, *15*(4), 26–44.

Ayunis, A., & Belia, S. (2021). Pengaruh Pendekatan Realistic Mathematics Education (RME) terhadap Perkembagan Literasi Matematika Siswa di Sekolah Dasar. *Jurnal Basicedu*, *5*(6), 5363–5369. https://doi.org/10.31004/basicedu.v5i6.1508

Donthu, N., Kumar, S., Mukherjee, D., Pandey, N., & Lim, W. M. (2021). How to conduct a bibliometric analysis: An overview and guidelines. *Journal of Business Research*, 285–296.

Drijvers, P., & Marja Van den Heuvel-Panhuizen. (2020). Realistic Mathematics Education. In: Lerman S. (eds) Encyclopedia of Mathematics Education. In *Springer*.

Elili, N. O. D. (2022). Bibliometric analysis on corporate governance topics published in the journal of Corporate Governance: The International Journal of Business in Societ. *The International Journal of Business in Society*, *1*(6).

Ersozlu, Z., & Karakus, M. (2019). Mathematics Anxiety: Mapping the Literature by Bibliometric Analysis. *Eurasia Journal of Mathematics, Science and Technology Education*, *15*(2). https://doi.org/10.29333/ejmste/102441

Gravemeijer, K. (2004). Local instructions theory as means of support for teachers in reform

ISSN 2356-2684 (print), ISSN 2477-1503 (online)

mathematics education. *Mathematical Thinking and Learning*, *2*(6), 105–128.

Iskandar, R. S. F., & Juandi, D. (2022). Study Literature Review: Realistic Mathematics Education Learning on Students' Mathematical Creative Thinking Ability. *SJME (Supremum Journal of Mathematics Education)*, *6*(1), 35–42. https://doi.org/10.35706/sjme.v6i1.5739

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. https://doi.org/10.29333/iji.2022.15122a

Lailani Rahmahdhani, A. (2022). Penerapan Pendidikan Matematika Realistik Dalam Meningkatkan Hasil Belajar Siswa. *Jurnal Riset Pembelajaran Matematika*, *4*(2), 67–74. https://doi.org/10.55719/jrpm.v4i2.528

Listyaningrum, P., Retnawati, H., Harun, & Ibda, H. (2025). Realistic Mathematics Education in Digital Era Elementary Schools: A Systematic Literature Review. *International Journal on Advanced Science, Engineering and Information Technology*, *15*(1), 67–74. https://doi.org/10.18517/ijaseit.15.1.20123

Lu Pien, C. (2013). The design of mathematics problem using real-life context for young children. *Journal of Science and Mathematics Education in Southeast Asia*, *1*(36), 23–43.

Muhammad, I., Marchy, F., Rusyid, H. K., & Dasari, D. (2022). Analisis Bibliometrik: Penelitian Augmented Reality Dalam Pendidikan Matematika. *JIPM (Jurnal Ilmiah Pendidikan Matematika)*, *11*(1), 141. https://doi.org/10.25273/jipm.v11i1.13818

Ningsi, G. P., Nendi, F., Sugiarti, L., Jeramat, E., & Gahung, A. (2024). Realistic Mathematics Education (RME) Kombinasi Flipped Classroom Ditinjau dari Kemampuan Pemecahan Masalah dan Representasi Matematis. *Mathema Journal*, *6*(1), 152–163. https://doi.org/10.33365/jm.v6i1.3293

Nuraida, I. (2018). Penerapan Pembelajaran Matematika Realistik untuk Meningkatkan Kemampuan Adaptive Reasoning Siswa. *Mosharafa: Jurnal Pendidikan Matematika*, *7*(1), 25–32. https://doi.org/10.31980/mosharafa.v7i1.471

Octaria, D., Zulkardi, Z., & Putri, R. I. I. (2023). stematic Literature Review: How students learn linear programming with realistic mathematics education?,. *Nt. J. Trends Math. Educ. Res*, *6*(1). https://doi.org/10.33122/ijtmer.v6i1.174

Phan, T. T., Duong, H. T., Do, T. T., Trinh, T. P. T., Trinh, T. H., Do, B. C., Tran, T., & Nguyen, T. T. (2022). A Bibliometric Review on Realistic Mathematics Education in Scopus Database between 1972-2019. *European Journal of Educational Research*, *11*(2), 1133–1149. https://doi.org/10.12973/eu-jer.11.2.1133

Prahmana, R. C. I., Sagita, L., Hidayat, W., & Utami, N. W. (2020). Two Decades of Realistic Mathematics Education Research in Indonesia: a Survey. *Infinity Journal*, *9*(2), 223–246. https://doi.org/10.22460/infinity.v9i2.p223-246

Putri, A. D., Juandi, D., & Turmudi. (2024). Realistic mathematics education and mathematical literacy: a meta-analysis conducted on studies in Indonesia. *Journal of Education and Learning*, *18*(4), 1468–1476. https://doi.org/10.11591/edulearn.v18i4.21650

Revina, S., & Leung, F. K. S. (2019). How the Same Flowers Grow in Different Soils? The Implementation of Realistic Mathematics Education in Utrecht and Jakarta Classrooms. *International Journal of Science and Mathematics Education*, *17*(3), 565–589. https://doi.org/10.1007/s10763-018-9883-1

Risdiyanti, I., Zulkardi, Z., Putri, R. I. I., Prahmana, R. C. I., & Nusantara, D. S. (2024). Ratio and proportion through realistic mathematics education and pendidikan matematika realistik Indonesia approach: A systematic literature review. *Jurnal Elemen*, *10*(1), 158–180. https://doi.org/10.29408/jel.v10i1.24445

Sembiring, R. K., Hadi, S., & Dolk, M. (2008). Reforming mathematics learning in Indonesian classrooms through RME. *ZDM - International Journal on Mathematics Education*, *40*(6), 927–939. https://doi.org/10.1007/s11858-008-0125-9

Supinah, R., & Soebagyo, J. (2022). Analisis Bibliometrik Terhadap Tren Penggunaan ICT Pada Pembelajaran Matematika. *JNPM (Jurnal Nasional Pendidikan Matematika)*, *6*(2), 276. https://doi.org/10.33603/jnpm.v6i2.6153

Susandi, A. D., & Khoiriyah, B. (2024). Evaluating the M6 learning model and realistic mathematics education (RME) approach in enhancing critical thinking skills in mathematics : A focus on

ISSN 2356-2684 (print), ISSN 2477-1503 (online)

students ' logical-mathematical intelligence. *Al-Jabar : Jurnal Pendidikan Matematika*, *15*(02), 413–430. https://doi.org/10.24042/ajpm.v15i2.22973

Tong, D. H., Nguyen, T.-T., Uten, B. P., Ngan, L. K., Khanh, L. T., & Tinh, P. T. (2022). Realistic Mathematics Education's Effect on Students' Performance and Attitudes: A Case of Ellipse Topics Learning. *European Journal of Educational Research*, *11*(1), 69–81. https://pdf.eu-jer.com/EU-JER_9_1_395.pdf

Trenggonowati, D. L., Evi, L. H., Febianti, & Muhammad, Kulsum Ade, I. (2022). Bibliometric Analysis of University Timetabling Using Publish and Perish. *Proceedings of the Conference on Broad Exposure to Science and Technology 2021 (BEST 2021)*.

Uhurata, B., Salajang, S., & Kumesan, S. L. (2014). Penerapan Pembelajaran Matematika Realistik Berbasis Pendidikan Karakter Bangsa dan Pen-garuhnya Terhadap Hasil Belajar Persamaan Garis Lurus Siswa SMP Negeri 2 Tondano. *JSME MIPA UNIMA*, *2*(3).

Van Den Heuvel-Panhuizen, M. (2003). The didactical use of models in realistic mathematics education: An example from a longitudinal trajectory on percentage. *Educational Studies in Mathematics 54:*, *54*, 19–35https:/doi.org/10.1023/B

Zulkardi, Z., Putri, R. I. I., & Wijaya, A. (2019). *Two Decades of Realistic Mathematics Education in Indonesia*. https://doi.org/10.1007/978-3-030-20223-1_4

ISSN 2356-2684 (print), ISSN 2477-1503 (online)