International Journal of Science, Strategic Management and Technology
Volume **02** Issue **04** April-**2026** | ISSN: **3108-1762 (Online)** | Impact Factor: 3.8
An International, Peer-Reviewed, Open Access Scholarly Journal Indexed in recognized academic databases

# Enhancing Math Learning for Students with Reading Difficulties: Systematic Review on the Strategies of Teacher

Author Details:

**Nelly Rose C. Leono**

College of Education, Bukidnon State University, Malaybalay City, Bukidnon, Philippines

Corresponding Author Email: nellieleono@gmail.com | ORCID: https://orcid.org/xxxx-xxxx-xxxx-xxxx

**https://doi.org/**10.55041/ijsmt.v2i4.448

**Cite this Article**: Leono, N. R. C. (2026). Enhancing Math Learning for Students with Reading Difficulties: Systematic Review on the Strategies of Teacher. International Journal of Science, Strategic Management and Technology, *02*(04). https://doi.org/10.55041/ijsmt.v2i4.448



## Abstract—

A systematic review explores strategies employed by teachers to support students with reading difficulties in improving mathematical proficiency, addressing the critical intersection between mathematics, and reading abilities in education This systematic review aims to shed light on effective approaches educators can employ to enhance the math learning of students struggling with reading comprehension. This study utilized a systematic literature review method to synthesize existing literature concerning the strategies employed by teachers to support students with reading difficulties. Results showed three (3) emerging themes, that is (1) Integration of Literacy and Math, (2) Explicit Instruction and Practice, and (3) Critical Thinking and Problem-Solving. It is recommended that by incorporating reading and writing activities alongside clear instruction in decoding word problems, educators can empower students with reading difficulties to excel in math. These fosters both their mathematical understanding and critical thinking skills, allowing them to approach math with confidence.

**Keywords—** Math learning; Reading difficulties; Strategies of teacher; Systematic review.

## I. INTRODUCTION

In the realm of education, the intersection between mathematics and reading abilities is a critical area of concern, particularly for students facing challenges in reading. The study titled "Enhancing Math Learning for Students with Reading Difficulties: Systematic Review on the Strategies of Teachers" delves into this important topic by examining the strategies employed by teachers to support students with reading difficulties in their math learning. This systematic review aims to shed light on effective approaches that educators can utilize to enhance the mathematical proficiency of students who struggle with reading comprehension.

Understanding the unique needs of students with reading difficulties is essential for educators to provide tailored support that fosters their mathematical development (Mooney, & Ryan, 2022). Synthesizing existing research on this subject, the study seeks to identify evidence-based strategies that have proven successful in improving math learning outcomes for this specific student population. Through a comprehensive analysis of teacher strategies, this research contributes valuable insights

to the field of education, offering practical guidance for educators striving to create inclusive and effective learning environments for all students.

The implications of this study extend beyond individual classrooms, as the findings have the potential to inform educational policies and practices aimed at addressing the needs of diverse learners. By highlighting best practices and innovative approaches used by teachers to enhance math learning for students with reading difficulties, this research not only enriches our understanding of effective pedagogical methods but also underscores the importance of personalized instruction in promoting academic success for all students, regardless of their learning challenges. Ultimately, this systematic review serves as a beacon of knowledge, guiding educators towards strategies that can empower students with reading difficulties to excel in mathematics and beyond.

## II. LITERATURE REVIEW

## III. METHODOLOGY

Conducting a systematic review aimed to provide a comprehensive understanding of the Strategies of Teachers in Enhancing Math Learning for Students with Reading Difficulties. A meticulous search strategy encompassed electronic databases like Google Scholar and ResearchGate, alongside relevant journals and books, utilizing specific search terms such as “Math Learning Strategies for Students with Reading Difficulties” and “Strategies of Math Teachers with Students with Learning Disabilities or Difficulties”. Inclusion criteria focused on peer-reviewed articles published in English within the last decade, emphasizing insights into the strategies of teachers for enhancing Math Learning in students with reading difficulties across diverse educational settings and grade levels.

The initial search phase produced a substantial volume of articles, subsequently refined through screening based on titles and abstracts to assess relevance. Fifteen articles emerged for in-depth review, aiming to extract insights into the strategies of teachers in enhancing Math Learning for students with reading difficulties. Through this comprehensive review, recurring themes and patterns were identified, offering a comprehensive overview of the landscape surrounding the strategies of teachers in enhancing Math Learning for students with reading difficulties. By synthesizing diverse literature, this systematic approach facilitated a holistic understanding of the complex dynamics at play, providing valuable insights into the nuances of the strategies of teachers in enhancing Math Learning for students with reading difficulties.

## IV. RESULTS AND DISCUSSION

Theme 1. Integration of Literacy and Math

The integration of literacy and math emerges as a crucial theme in enhancing math learning for students with reading difficulties (Hasibuan, 2018). Strategies such as incorporating reading and writing into math classes, having students write reflectively, and rewriting word problems to personalize them not only improve literacy skills but also deepen mathematical understanding (Helstad, Solbrekke, & Wittek, 2017). By intertwining reading and math, students can develop a stronger grasp of mathematical concepts through contextualization and personalization (Hadianto, et.al, 2021). Demonstrating a practical model for literacy-math integration in everyday classrooms provided direct experimental evidence that embedding language comprehension instruction within a mathematics word-problem curriculum closes the achievement gap, (Fuchs et al. 2021). Through systematic review, it further confirms that combined literacy-numeracy interventions produce the strongest outcomes for at-risk students in Grades K–6, reinforcing the value of integrated rather than siloed academic support (Dietrichson et al. 2021).

Theme 2. Explicit Instruction and Practice

Another significant theme revolves around the importance of explicit instruction and practice for students with math-related learning disabilities (Li, Arizmendi, & Swanson, 2022). Strategies like avoiding memory overload, providing supervised practice, and decoding word problems help students build retention, reduce cognitive demands, and enhance their understanding of mathematical concepts (Oginni, et al., 2021). By breaking down complex skills into manageable parts and offering structured practice, students can overcome challenges associated with dyscalculia and other math-related learning disabilities (Jitendra, et al., 2018). Underscoring its relevance across grade levels, identified an explicit, structured, and targeted

instruction as the most consistently effective approach for improving both reading and mathematics outcomes for at-risk secondary students (Dietrichson et al. 2020). Through a four-decade meta-analytic synthesis, confirmed that systematic and explicit phonics and decoding instruction is foundational for students with dyslexia whose word-reading deficits directly impair their comprehension of mathematical word problems (Hall et al. 2023)

Theme 3. Critical Thinking and Problem-Solving

Critical thinking and problem-solving skills play a vital role in supporting students with reading difficulties in mathematics (Dolapçıoğlu & Doğanay, 2020). Integration of reading with mathematical problem-solving by showing that comprehension strategies including questioning, visualizing, and synthesizing directly strengthen students' critical reasoning capacity during word-problem tasks (Orosco and Reed, 2024). Encouraging discussions, building vocabulary, and implementing close reading strategies foster deep mathematical engagement, justification of approaches, and the ability to pose meaningful questions (Webb, et al., 2021). By nurturing critical thinking skills and promoting collaborative problem-solving, teachers can empower students to approach math problems with confidence, analytical thinking, and a deeper understanding of mathematical concepts (Rinadin, 2020). Externalizing and makes visible the critical reasoning steps that proficient readers apply internally Think Aloud Pair Problem Solving (TAPPS) strategy demonstrated making higher-order mathematical thinking genuinely accessible to students whose reading difficulties (Muhamad Fadzil et al. 2025).

## V. CONCLUSION

Students with reading difficulties can excel in math with targeted instruction that bridges the gap between literacy and mathematical understanding. Integrating reading and writing activities into math lessons, along with explicit instruction and practice in decoding word problems, empowers these students to approach math with confidence and critical thinking skills.

Educators should design lessons that weave together literacy and math, while providing explicit instruction and opportunities for practice in decoding word problems. Encouraging discussions, critical thinking, and collaborative problem-solving will further strengthen students' conceptual understanding and ability to apply math in meaningful ways.

## ACKNOWLEDGMENT

The authors would like to thank the colleagues and institutions who provided guidance, feedback, and support throughout the conduct of this research and the preparation of this manuscript. Any remaining errors or omissions are the sole responsibility of the author.

## REFERENCES

[1] Dietrichson, J., Filges, T., Klokker, R. H., Viinholt, B. C. A., Bøg, M., & Jensen, U. H. (2020). Targeted school-based interventions for improving reading and mathematics for students with, or at risk of, academic difficulties in Grades 7–12: A systematic review. Campbell Systematic Reviews. https://doi.org/10.1002/cl2.1081

[2] Dietrichson, J., Filges, T., Seerup, J. K., Klokker, R. H., Viinholt, B. C. A., Bøg, M., & Eiberg, M. (2021). Targeted school-based interventions for improving reading and mathematics for students with or at risk of academic difficulties in Grades K–6: A systematic review. Campbell Systematic Reviews. https://doi.org/10.1002/cl2.1152

[3] Dietrichson, J., Filges, T., Seerup, J. K., Klokker, R. H., Viinholt, B. C. A., Bøg, M., & Eiberg, M. (2021). Targeted school-based interventions for improving reading and mathematics for students with or at risk of academic difficulties in Grades K–6: A systematic review. Campbell Systematic Reviews. https://doi.org/10.1002/cl2.1152

[4] Dolapçıoğlu, S., & Doğanay, A. (2020). Development of critical thinking in mathematics classes via authentic learning: an action research. International Journal of Mathematical Education in Science and Technology, 53, 1363 - 1386. https://doi.org/10.1080/0020739X.2020.1819573.

[5] Fuchs, L. S., Seethaler, P. M., Sterba, S. K., Craddock, C., Fuchs, D., Compton, D. L., Geary, D. C., & Changas, P. (2021). Closing

the word-problem achievement gap in first grade: Schema-based word-problem intervention with embedded language comprehension instruction. Journal of Educational Psychology, 113(1), 86–103. https://doi.org/10.1037/edu0000467

[6] Hadianto, D., Damaianti, V., Mulyati, Y., & Sastromiharjo, A. (2021). Does reading comprehension competence determine level of solving mathematical word problems competence?. Journal of Physics: Conference Series, 1806. https://doi.org/10.1088/1742-6596/1806/1/012049.

[7] Hasibuan, S. (2018). The Effect Of Using Literacy Integrated Method On The Students' Reading Achievement In Narrative. International Journal Of Emerging Technologies In Learning. Https://Doi.Org/10.15642/Ijet.2018.7.2.118-130.

[8] Helstad, K., Solbrekke, T., & Wittek, A. (2017). Exploring teaching academic literacy in mathematics in teacher education. Education Inquiry, 8, 318 - 336. https://doi.org/10.1080/20004508.2017.1389225.

[9] Jitendra, A., Lein, A., Im, S., Alghamdi, A., Hefte, S., & Mouanoutoua, J. (2018). Mathematical Interventions for Secondary Students With Learning Disabilities and Mathematics Difficulties: A Meta-Analysis. Exceptional Children, 84, 177 - 196. https://doi.org/10.1177/0014402917737467.

[10] Li, J., Arizmendi, G., & Swanson, H. (2022). The influence of teachers' math instructional practices on English learners' reading comprehension and math problem-solving performance in Spanish and English. International Journal of Bilingual Education and Bilingualism, 25, 3614 - 3630. https://doi.org/10.1080/13670050.2022.2068346.

[11] Mooney, P., & Ryan, J. B. (2022). Research-Based Strategies to Improve Math Instruction for Teachers and Outcomes for Students With Emotional and Behavioral Disorders. Beyond Behavior, 31(1), 3-4. https://doi.org/10.1177/10742956211072840

[12] Oginni, O., Akinola, A., Fadiji, A., & Amole, P. (2021). Effects of Mastery Learning Strategy on Secondary School Students Performance in Mathematics. European Journal of Education and Pedagogy. https://doi.org/10.24018/ejedu.2021.2.5.171.

[13] Orosco, M. J., Mamedova, S., & Abdulrahim, N. A. (2025). Comprehension strategy instruction for Hispanic children with mathematical learning difficulties. Frontiers in Psychology. https://doi.org/10.3389/fpsyg.2025.1645323

[14] Rinadin, R. (2020). The Effect Of The Collaborative Problem Solving On Learning Result Reviewed From The Ability Of Mathematic Critical Thinking Of Class Vii. , 7, 24-28. https://doi.org/10.12928/Admathedust.V7i1.20146.

[15] Webb, N., Franke, M., Johnson, N., Ing, M., & Zimmerman, J. (2021). Learning through explaining and engaging with others' mathematical ideas. Mathematical Thinking and Learning, 25, 438 - 464. https://doi.org/10.1080/10986065.2021.1990744.