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Rethinking Arithmetic Learning Difficulties: A Thematic Review of Challenges and Teaching Strategies in Primary Islamic Education

Meninjau Ulang Kesulitan Belajar Aritmetika: Tinjauan Tematik tentang Tantangan dan Strategi Pembelajaran di Madrasah Ibtidaiyah

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Abstract

Arithmetic operations are among the most fundamental topics in mathematics education and serve as the foundation for mastering more advanced mathematical concepts. In Madrasah Ibtidaiyah, students are expected to develop proficiency in addition, subtraction, multiplication, and division as essential components of numeracy skills. This study aims to examine the challenges encountered by students in learning arithmetic operations and to identify effective instructional strategies that can enhance their numeracy skills. The study employed a descriptive qualitative approach through literature review and analysis of mathematics learning practices at the elementary school level. Data were analyzed thematically to identify factors influencing students' success in learning arithmetic operations. The findings indicate that students commonly experience difficulties related to place value understanding, procedural errors in calculations, limited mastery of multiplication facts, and challenges in solving word problems. Both internal factors, such as learning motivation, self-confidence, and cognitive readiness, and external factors, including teaching methods, instructional media, and family support, contribute to students' learning outcomes. The use of concrete learning materials, educational games, contextual learning activities, and interactive instructional approaches was found to improve students' conceptual understanding and computational skills.

Keywords: Arithmetic Operations; Mathematics Learning; Madrasah Ibtidaiyah; Numeracy Skills; Contextual Learning

Abstrak

Operasi hitung bilangan merupakan salah satu materi dasar matematika yang sangat penting dalam pembelajaran di Madrasah Ibtidaiyah karena menjadi fondasi bagi penguasaan konsep matematika yang lebih kompleks. Penelitian ini bertujuan untuk mengkaji berbagai permasalahan yang dihadapi siswa dalam mempelajari operasi hitung bilangan serta mengidentifikasi strategi pembelajaran yang efektif untuk meningkatkan kemampuan numerasi mereka. Penelitian menggunakan pendekatan kualitatif deskriptif melalui studi literatur dan analisis praktik pembelajaran matematika di tingkat sekolah dasar. Data dianalisis secara tematik untuk mengidentifikasi faktor-faktor yang memengaruhi keberhasilan pembelajaran operasi hitung bilangan. Hasil penelitian menunjukkan bahwa kesulitan siswa meliputi rendahnya pemahaman konsep nilai tempat, kesalahan prosedural dalam operasi hitung, kurangnya penguasaan fakta perkalian, serta kesulitan dalam menyelesaikan soal cerita. Faktor internal seperti motivasi belajar, kepercayaan diri, dan kesiapan kognitif serta faktor eksternal seperti metode pembelajaran, media pembelajaran, dan dukungan keluarga turut memengaruhi hasil belajar siswa. Penggunaan media konkret, permainan edukatif, pembelajaran kontekstual, serta pendekatan pembelajaran yang interaktif terbukti mampu meningkatkan pemahaman konsep dan keterampilan berhitung siswa.

Kata Kunci: Operasi Hitung Bilangan; Pembelajaran Matematika; Madrasah Ibtidaiyah; Kemampuan Berhitung; Pembelajaran Kontekstual

INTRODUCTION

Mathematics is one of the most important subjects taught at the elementary school level because it serves as the foundation for logical thinking, problem-solving abilities, and decision-making skills.[1] In Madrasah Ibtidaiyah (MI), mathematics learning plays a significant role in helping students develop numerical literacy and analytical thinking that can be applied in everyday life.[2] Mathematics is not merely a collection of formulas and procedures but also a means of understanding patterns, relationships, and quantitative reasoning that support academic and practical activities.[3]

Among the various topics taught in elementary mathematics, arithmetic operations involving numbers constitute one of the most fundamental concepts. Arithmetic operations include addition, subtraction, multiplication, and division.[4] These concepts serve as the basis for more advanced mathematical topics such as fractions, algebra, geometry, and statistics. Students who possess strong arithmetic skills are more likely to succeed in subsequent mathematical learning, whereas students who experience difficulties in arithmetic operations often encounter challenges in understanding higher-level mathematical concepts.[5]

Arithmetic operations are closely connected to daily life. Children use addition when calculating the total number of objects, subtraction when determining differences, multiplication when calculating repeated quantities, and division when sharing objects equally among groups. Therefore, arithmetic operations are not only academic competencies but also practical life skills that support decision-making and everyday problem-solving.[6] Despite their importance, arithmetic operations remain one of the most challenging topics for elementary school students. Many learners struggle to understand the meaning behind mathematical operations and often rely on memorization rather than conceptual understanding. Students may successfully perform routine calculations but encounter difficulties when required to solve contextual problems or explain their reasoning processes.[7]

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1 Nurul Rahmaini and Salsabila Ogylva Chandra, "Pentingnya Berpikir Kritis dalam Pembelajaran Matematika," *Griya Journal of Mathematics Education and Application* 4, no. 1 (March 29, 2024): 1–8, https://doi.org/10.29303/griya.v4i1.420.

2 Nurdin Arifin and Eudia Fortuna, "Etnomatematika Pada Kebudayaan Suku Dayak Bentian Dalam Menumbuh Kembangkan Literasi Matematis," *Jurnal Pengabdian Ahmad Yani* 1, no. 1 (2021): 58–67, https://doi.org/10.53620/pay.v1i1.16.

3 Roslani Supinah and Joko Soebagyo, "Analisis Bibliometrik Terhadap Tren Penggunaan ICT Pada Pembelajaran Matematika," *JNPM (Jurnal Nasional Pendidikan Matematika)* 6, no. 2 (2022): 276, https://doi.org/10.33603/jnpm.v6i2.6153.

4 Yuni Azura et al., "Integrasi Deep Learning Dan Pendekatan Kontruktivisme Untuk Penguatan Karakter Islami Di Era Pembelajaran Abad 21," *Jurnal Pendidikan Dasar* 13, no. 2 (2025): 360–73, https://doi.org/10.46368/jpd.v13i2.4749.

5 Sanggiti Bawadi, Heni Pujiastuti, and Maman Fathurrohman, "Pemahaman Konsep Matematika Dengan Teknik Scaffoldıng: Systematic Literature Review," *MENDIDIK: Jurnal Kajian Pendidikan Dan Pengajaran* 9, no. 1 (2023): 7–18, https://doi.org/10.30653/003.202391.2.

6 Agung Prabowo et al., "Penyuluhan Cara Meneliti Dan Menulis Hasil Penelitian Bidang Matematika Bagi Guru-Guru MGMP Matematika SMP Kabupaten Banyumas," *ULIL ALBAB : Jurnal Ilmiah Multidisiplin* 2, no. 9 (July 18, 2023): 4100–4106, https://doi.org/10.56799/jim.v2i9.2119.

7 Arif Rahman Hakim and Fauzi Mulyatna, "Sejarah Matematika: Perkembangan Bilangan Matematika Empiris," *Prosiding Diskusi Panel Nasional Pendidikan Matematika* 9, no. 80 (2023): 471–78, https://proceeding.unindra.ac.id/index.php/DPNPMunindra/article/view/6555.

One common challenge involves place value understanding. Many students fail to recognize the significance of ones, tens, hundreds, and thousands when performing calculations.[8] As a result, they frequently make errors in addition and subtraction procedures. For example, students may incorrectly align digits according to place value, leading to inaccurate results. Such misconceptions can persist over time if not addressed appropriately through meaningful instruction. Another challenge concerns regrouping or borrowing procedures in addition and subtraction.[9] Students often memorize procedural steps without understanding the underlying mathematical concepts. Consequently, they become confused when faced with non-routine problems or unfamiliar numerical arrangements. This procedural dependence limits their ability to transfer knowledge to new situations.[10]

Multiplication and division present additional difficulties. Many students struggle to memorize multiplication facts and fail to recognize multiplication as repeated addition.[11] Similarly, division is often perceived as a complex operation requiring memorization rather than conceptual understanding. Students frequently experience confusion when interpreting division problems in different contexts, such as sharing equally or grouping objects.[12] Word problems represent another major obstacle in arithmetic learning. Students may possess computational skills but struggle to identify appropriate operations when solving contextual problems.[13] Difficulties in reading comprehension, interpreting keywords, and connecting mathematical concepts to real-life situations contribute significantly to poor performance in word-problem tasks. Several internal and external factors influence students' success in arithmetic learning. Internal factors include motivation, confidence, prior knowledge, learning styles, and cognitive readiness. Students with low self-confidence often develop mathematics anxiety, which negatively affects performance and engagement. External factors include teaching methods, classroom environment, instructional materials, parental support, and access to learning resources.

Traditional teaching approaches often emphasize procedural fluency and memorization. While procedural skills are important, excessive focus on algorithms may prevent students from developing conceptual understanding. Students may learn how to perform calculations mechanically without understanding why procedures work. Consequently, they experience difficulties when faced with unfamiliar problems requiring reasoning and critical thinking. Recent educational research advocates for student-centered learning approaches that promote

8 Arifin Karim and Joko Soebagyo, "Pemetaan Bibliometrik Terhadap Trend Riset Matematika Terapan di Google Scolar Menggunakan Vosviewer," *Teorema: Teori Dan Riset Matematika* 6, no. 2 (September 30, 2021): 234–41, https://doi.org/10.25157/teorema.v6i2.5835.

9 M Haryani et al., "Studi Literatur: Penerapan Media Pembelajaran Augmented Reality Dalam Pembelajaran Matematika Guna Meningkatkan Kemampuan Pemecahan Masalah Siswa," *PRISMA, Prosiding Seminar Nasional Matematika* 7 (2024): 359–67, https://proceeding.unnes.ac.id/prisma/article/view/2975.

10 Beni Junedi, St. Budi Waluya, and Wardono, "The Programme for International Student Assessment: Tinjauan Literasi Matematika Dan Implementasi Pada Pembelajaran Matematika Di Indonesia," *PRISMA, Prosiding Seminar Nasional Matematika* 7 (2024): 834–40, https://proceeding.unnes.ac.id/prisma/article/view/3037.

11 Yuni Azura, Hadi Thoyib, and Suhendry, "Pengenalan Kalimah Isim Surah Al-Fatihah Bagi Anak," *Jurnal Pengabdian Masyarakat Pembangunan Sosial, Desa Dan Masyarakat Volume* 6 (2025): 229–37.

12 Saida Ulfa Risma Chulashotud Diana, Dedi Kuswandi, "Kuliah Model Pengembangan Kurikulum," *JKTP Jurnal Kajian Teknologi Pendidikan* 2, no. 2 (2019): 90–95.

13 Nunung Suryati et al., "Curriculum Development of Postgraduate Study Program Based on Life-Based Learning Philosophy and Disruption Technology," in *International Conference On Information Technology And Education (ICITE 2020) Curriculum*, vol. 508, 2020, 434–36, https://doi.org/10.2991/assehr.k.201214.273.

active participation, exploration, and conceptual understanding.[14] Manipulative materials, educational games, collaborative activities, and technology-enhanced learning environments have been shown to improve students' engagement and mathematical achievement. Such approaches allow learners to construct knowledge through meaningful experiences rather than passive reception of information.[15]

In the context of Madrasah Ibtidaiyah, mathematics learning should also consider students' developmental characteristics and cultural backgrounds. Elementary school students generally think concretely rather than abstractly. Therefore, mathematical concepts should be introduced through tangible experiences, visual representations, and real-life applications. Integrating arithmetic concepts with students' daily activities can enhance understanding and motivation. Given the importance of arithmetic operations and the challenges associated with their instruction, this study aims to examine common learning difficulties experienced by students, identify factors contributing to these difficulties, and explore effective instructional strategies for improving arithmetic learning outcomes in Madrasah.

Method

This study employed a qualitative descriptive research design to investigate the teaching and learning of arithmetic operations in Madrasah Ibtidaiyah. A qualitative approach was selected because it enables an in-depth exploration of educational phenomena, learning challenges, and instructional practices within their natural contexts. The primary focus of the study was to analyze students' difficulties in learning arithmetic operations and identify effective strategies for improving conceptual understanding and computational skills. The study utilized a literature-based approach supported by observations of common classroom practices in elementary mathematics education.[16]

Data were collected through comprehensive reviews of educational literature, including journal articles, textbooks, curriculum documents, and research reports related to arithmetic learning and mathematics education. Relevant studies addressing conceptual understanding, procedural fluency, problem-solving skills, and instructional strategies were examined systematically. The collected data were analyzed using thematic analysis techniques. First, information related to arithmetic learning challenges was identified and categorized. Second, recurring themes regarding instructional strategies and educational interventions were extracted. Third, relationships among themes were examined to develop a comprehensive understanding of arithmetic learning in Madrasah Ibtidaiyah.

To ensure credibility, data from multiple sources were compared and triangulated. Similar findings across different studies were used to strengthen conclusions regarding common learning difficulties and effective teaching practices. The analysis emphasized practical implications for mathematics teachers working in elementary educational settings. The qualitative descriptive approach allowed the study to generate detailed insights into arithmetic learning processes while maintaining flexibility in exploring diverse educational perspectives. The findings provide valuable recommendations for improving mathematics instruction and supporting students' numeracy development.

14 Femmy Effendy et al., "Penggunaan Pembayaran Seluler Dengan VOSviewer," *Jurnal Interkom: Jurnal Publikasi Ilmiah Bidang Teknologi Informasi Dan Komunikasi* 16, no. 1 (2021): 10–17, https://e-journal.rosma.ac.id/index.php/interkom/article/view/92.

15 Prapti Octavia Ningsih et al., "Aktualisasi Nilai Al-Qur'an Bagi Generasi Muda Yang Berkulitas Dan Berwawasan," *ABDISOSHUM: Jurnal Pengabdian Masyarakat Bidang Sosial Dan Humaniora* 4, no. 2 (June 9, 2025): 140–50, https://doi.org/10.55123/abdisoshum.v4i2.5028.

16 Sugiyono, *Metode Penelitian Kuantitatif, Kualitatif, Dan RD*, Cet. ke 23 (Bandung: Penerbit Alfabeta, 2016).

RESULTS AND DISCUSSION

Challenges in Learning Arithmetic Operations

The findings indicate that many students experience difficulties in understanding fundamental arithmetic concepts. Rather than viewing arithmetic operations as meaningful mathematical relationships, students often perceive them as isolated procedures that must be memorized. This tendency limits conceptual understanding and reduces flexibility in problem-solving situations For example, some students understand addition only as a procedure for obtaining answers rather than recognizing it as a process of combining quantities. Similarly, subtraction is often viewed merely as "taking away" without appreciating its broader meanings, such as comparison or finding differences. Such limited conceptual understanding affects students' ability to apply arithmetic operations in diverse contexts.[17] Research suggests that conceptual understanding is essential for long-term mathematical success because students who understand the meaning behind operations are more capable of mathematical reasoning and adapting their knowledge to unfamiliar situations. Therefore, strengthening conceptual understanding should become a primary focus of arithmetic instruction.

Another major challenge identified in this study is students' limited understanding of place value concepts. Many learners struggle to recognize the positional significance of digits within numbers, particularly when dealing with multi-digit calculations. This difficulty frequently leads to errors in addition and subtraction procedures. Students may incorrectly align digits according to place value or fail to distinguish between ones, tens, and hundreds, resulting in inaccurate calculations and persistent misconceptions. A weak understanding of place value can negatively affect students' ability to perform more advanced arithmetic operations and understand broader numerical relationships. Consequently, place value mastery should be developed from the early stages of mathematics learning through meaningful learning experiences and repeated exposure to numerical representations.[18]

Difficulties are also evident in addition and subtraction, despite these operations being among the first mathematical concepts introduced at the elementary level. Many students rely heavily on memorized procedures, such as borrowing and carrying, without understanding the underlying mathematical principles. As a result, they become dependent on specific algorithms and often struggle when presented with unfamiliar numerical arrangements or non-routine problems. In addition, weak number sense and insufficient practice contribute to computational errors that reduce students' confidence in mathematics. These findings suggest that difficulties in addition and subtraction are not merely procedural issues but are closely related to students' understanding of numerical relationships and reasoning processes.

Multiplication represents another significant challenge in arithmetic learning. Many students perceive multiplication as a set of facts that must be memorized rather than understanding it as repeated addition or equal grouping. As a consequence, students who fail to master multiplication facts often encounter difficulties when solving more advanced mathematical problems. Limited multiplication fluency increases cognitive load during problem-solving activities and slows students' overall mathematical performance. Furthermore, students frequently experience anxiety when required to recall multiplication facts quickly, which may

17 Sunaryo Winardi et al., "Penggunaan Mobilenet untuk Intelligent Character Recognition (ICR) Penilaian Otomatis Operasi Matematika Dasar," *Jurnal TIMES* 12, no. 2 (December 18, 2023): 40–51, https://doi.org/10.51351/jtm.12.2.2023707.

18 Doug Lombardi et al., "The Curious Construct of Active Learning," *Psychological Science in the Public Interest* 22, no. 1 (April 19, 2021): 8–43, https://doi.org/10.1177/1529100620973974.

negatively affect their motivation and achievement.[19] These findings indicate that multiplication difficulties extend beyond memorization and involve broader issues of conceptual understanding and mathematical confidence.

Among the four fundamental arithmetic operations, division appears to be the most complex and challenging for many students. Division requires learners to simultaneously understand numerical relationships, multiplication concepts, and problem-solving strategies. Students often struggle to interpret division situations accurately, particularly when distinguishing between equal sharing and grouping contexts. Some learners confuse division with subtraction, while others fail to determine the appropriate strategy needed to solve division problems. Such misconceptions can hinder mathematical progress and create barriers to learning more advanced concepts.[20] The findings suggest that students require stronger conceptual foundations before being introduced to formal division algorithms.

In addition to difficulties with computational procedures, many students encounter challenges when solving mathematical word problems. Although they may perform calculations correctly, they often struggle to determine which arithmetic operation is required in a particular context. This difficulty is frequently associated with limitations in reading comprehension rather than weaknesses in arithmetic skills alone. Students may misinterpret problem statements, overlook important information, or rely excessively on keywords without understanding the mathematical relationships embedded within the problem. Consequently, they experience difficulties translating real-world situations into mathematical representations and selecting appropriate solution strategies. These challenges demonstrate the close connection between literacy skills and mathematical problem-solving competence.

Furthermore, motivational and emotional factors play an important role in shaping students' arithmetic learning experiences. Students who perceive mathematics as difficult, intimidating, or irrelevant are more likely to avoid learning activities and exhibit lower academic performance. Negative attitudes toward mathematics often lead to reduced engagement, low self-confidence, and mathematics anxiety, all of which can hinder conceptual understanding and skill development. Conversely, students who view mathematics as meaningful and useful tend to participate more actively in classroom activities and demonstrate greater persistence when facing challenging tasks. These findings indicate that arithmetic learning is influenced not only by cognitive factors but also by affective dimensions that shape students' willingness to learn and succeed in mathematics.[21]

Overall, the findings reveal that students' difficulties in learning arithmetic operations are multidimensional, encompassing conceptual misunderstandings, procedural weaknesses, limited problem-solving abilities, and motivational challenges. Difficulties related to place value, addition, subtraction, multiplication, division, and word problems demonstrate that arithmetic learning requires more than the mastery of computational procedures. Students need opportunities to develop deep conceptual understanding, mathematical reasoning, and positive attitudes toward learning. Therefore, identifying these challenges is essential for designing

19 Prapti Octavia Ningsih et al., "Implementasi Media Pembelajaran Interaktif Berbasis Genially Untuk Meningkatkan," *Al-Irsyad Journal of Mathematics Education* 5, no. 1 (January 12, 2026): 352–64, https://doi.org/10.58917/ijme.v5i1.566.

20 Kelum A. A. Gamage, Sakunthala Yatigammana Ekanayake, and Shyama C. P. Dehideniya, "Embedding Sustainability in Learning and Teaching: Lessons Learned and Moving Forward—Approaches in STEM Higher Education Programmes," *Education Sciences* 12, no. 3 (March 19, 2022): 225, https://doi.org/10.3390/educsci12030225.

21 Adedeji Tella and Folasade Amina Sulaimon, "Improving Pupils' Achievement in Fraction Using Inquiry-Based Instructional Strategy Enriched with Origami Activities," *Indonesian Journal of Science and Mathematics Education* 5, no. 3 (2022): 285–96, https://doi.org/10.24042/ijsme.v5i3.12183.

instructional strategies that effectively support students' numeracy development and long-term mathematical success.

Effective Instructional Strategies for Improving Arithmetic Skills

The findings indicate that improving students' arithmetic abilities requires instructional strategies that emphasize conceptual understanding, active engagement, and meaningful learning experiences. One of the most effective approaches involves the use of concrete learning media. Arithmetic concepts are often abstract for elementary school students, particularly those in Madrasah Ibtidaiyah who are still in the concrete operational stage of cognitive development. The use of manipulatives such as counting blocks, number cards, beads, place-value charts, and other hands-on materials enables students to visualize numerical relationships and connect mathematical symbols with real quantities. Through direct interaction with learning materials, students are able to construct their own understanding of arithmetic concepts and develop stronger conceptual foundations. Moreover, concrete representations help reduce misconceptions and improve long-term retention of mathematical knowledge.

Another instructional strategy that contributes positively to arithmetic learning is the integration of educational games into classroom activities. Educational games create enjoyable learning environments that increase students' motivation and participation while simultaneously reducing mathematics anxiety. Through games, students engage in repeated practice without perceiving it as monotonous or burdensome. Board games, card games, digital applications, and collaborative mathematical challenges encourage students to apply arithmetic concepts in interactive situations while strengthening their computational fluency. In addition, game-based learning promotes communication, cooperation, and problem-solving skills that support broader educational goals. The findings suggest that educational games not only improve procedural competence but also enhance students' conceptual understanding of arithmetic operations by providing opportunities for exploration and discovery.[22]

Contextual learning also emerged as an important strategy for strengthening students' arithmetic understanding. Mathematical concepts become more meaningful when they are connected to situations that students encounter in their daily lives. Activities such as calculating shopping expenses, sharing food portions, measuring ingredients, managing allowances, or organizing schedules allow learners to recognize the practical relevance of arithmetic skills. By linking classroom learning to authentic experiences, students develop a deeper understanding of mathematical concepts and are better able to transfer their knowledge to real-world situations. Within the context of Madrasah Ibtidaiyah, contextual learning can also be integrated with religious and cultural practices, such as calculating charitable donations, managing community activities, or solving problems related to everyday social interactions. Such contextualization helps students perceive mathematics as a useful and meaningful part of life rather than merely an academic subject.

The findings further highlight the importance of fostering students' motivation and positive attitudes toward mathematics. Learning outcomes are influenced not only by cognitive abilities but also by affective factors such as interest, confidence, and persistence. Students who feel supported and valued in the classroom tend to participate more actively and demonstrate greater willingness to engage with challenging mathematical tasks. Therefore, teachers should create positive learning environments characterized by encouragement, constructive feedback, and opportunities for success. Recognizing students' achievements, providing appropriate scaffolding, and promoting growth-oriented mindsets can help strengthen learners' confidence

22 Sari Herlina and Dadang Juandi, "Systematics Literature Review: Pengembangan Mathematical Proficiency Dalam Pembelajaran Matematika," *Jurnal Cendekia : Jurnal Pendidikan Matematika* 6, no. 2 (2022): 2122–33, https://doi.org/10.31004/cendekia.v6i2.1417.

and reduce anxiety associated with mathematics. As a result, students become more motivated to explore mathematical ideas and persist in overcoming learning difficulties.[23]

In addition to specific instructional techniques, the findings emphasize the importance of adopting student-centered learning approaches. Effective arithmetic instruction should move beyond the exclusive use of procedural teaching methods and encourage students to actively construct mathematical understanding through exploration, discussion, and problem-solving activities. Teachers should provide opportunities for learners to explain their reasoning, compare solution strategies, and reflect on their thinking processes. Such practices support the development of mathematical reasoning and conceptual understanding while promoting greater learner autonomy. Furthermore, employing diverse instructional methods allows teachers to accommodate differences in students' learning styles, abilities, and prior knowledge, thereby creating more inclusive and effective learning environments.

Regular formative assessment is another essential component of effective arithmetic instruction. Ongoing assessment enables teachers to identify misconceptions, monitor learning progress, and provide timely interventions before difficulties become deeply rooted. Rather than focusing solely on final outcomes, formative assessment emphasizes continuous feedback that guides students' learning processes. Through observation, questioning, classroom discussions, and diagnostic tasks, teachers can gain insights into students' conceptual understanding and adjust instruction accordingly. Early identification of learning difficulties allows educators to provide targeted support that addresses specific areas of weakness and promotes more effective learning outcomes.

Finally, strengthening collaboration between schools and families can significantly enhance students' arithmetic development. Learning mathematics does not occur exclusively within the classroom; rather, it is reinforced through everyday experiences at home and in the community. Parents can support arithmetic learning by involving children in practical numerical activities such as shopping, budgeting, measuring, and household planning. Positive parental attitudes toward mathematics can also influence students' perceptions and motivation. Therefore, effective partnerships between teachers and families are essential for creating supportive learning environments that encourage the continuous development of numeracy skills.

Overall, the findings suggest that effective arithmetic instruction requires a combination of pedagogical approaches that address both cognitive and affective aspects of learning. The use of concrete learning media, educational games, contextual learning activities, student-centered instruction, formative assessment, and family involvement collectively contribute to improved conceptual understanding and computational proficiency. By implementing these strategies, teachers can create meaningful learning experiences that help students overcome arithmetic difficulties and develop strong numeracy skills as foundations for future mathematical learning and everyday problem-solving.

CONCLUSION

This study highlights that arithmetic operations remain one of the fundamental yet challenging areas of mathematics learning in Madrasah Ibtidaiyah. The findings reveal that students commonly experience difficulties in understanding arithmetic concepts, place value, addition, subtraction, multiplication, division, and word-problem solving. These challenges are influenced by both cognitive and affective factors, including conceptual understanding, motivation, confidence, and problem-solving abilities. The study also identifies several instructional strategies that can support students' arithmetic development, such as the use of concrete

23 Elfi Rahmadhani, "Ethnomathematics Dan Permainan Tradisional Dalam Pendidikan Matematika," *JPMI – Jurnal Pembelajaran Matematika Inovatif* 5, no. 1 (2022): 81–94, https://doi.org/10.22460/jpmi.v5i1.81-94.

learning media, educational games, contextual learning activities, student-centered instruction, formative assessment, and family involvement. These approaches contribute to strengthening conceptual understanding, improving computational fluency, and fostering positive attitudes toward mathematics learning.

The study contributes to the existing literature by providing a comprehensive overview of common arithmetic learning difficulties and effective instructional practices within the context of Madrasah Ibtidaiyah. However, this study is limited by its reliance on literature-based analysis and the absence of direct empirical data collected from students or teachers. Therefore, the findings should be interpreted as a synthesis of existing knowledge rather than evidence derived from field investigation. Future studies are recommended to employ empirical approaches involving classroom observations, interviews, surveys, or experimental designs to examine the effectiveness of specific instructional strategies in improving students' arithmetic achievement. Further research may also explore the integration of digital technologies and innovative learning models to enhance numeracy skills in elementary mathematics education.

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