



USING THE METHOD OF EXPLANATION IN THE PROCESS OF LEARNING ARITHMETIC OPERATIONS

Xolmurodova Nilufar

Bukhara State Pedagogical Institute

Abstract: This article explores the method of explanation in teaching arithmetic operations to elementary students. It discusses the importance of clear, structured explanations in helping students grasp addition, subtraction, multiplication, and division. The article highlights strategies for effective explanation, including the use of visual aids, real-life examples, interactive activities, and scaffolding techniques. By employing these methods, teachers can enhance students' understanding and proficiency in arithmetic operations, laying a strong foundation for their future mathematical learning.

Keywords: Arithmetic operations, teaching methods, explanation, elementary education, addition, subtraction, multiplication, division, visual aids.

Arithmetic operations form the cornerstone of elementary mathematics education. Mastery of addition, subtraction, multiplication, and division is essential for students' success in more advanced mathematical concepts. One of the most effective ways to teach these operations is through clear and structured explanations. This article delves into the method of explanation in teaching arithmetic operations, examining its importance, techniques, and benefits in enhancing students' mathematical understanding. Explanation is a fundamental teaching method that involves conveying information clearly and coherently to facilitate student understanding. In the context of arithmetic operations, explanations help students grasp the underlying concepts and procedures, moving beyond rote memorization to meaningful learning. Clear explanations provide students with a framework for understanding how arithmetic operations work. They help demystify abstract concepts and present them in a way that is accessible and relatable. Effective explanations also address common misconceptions and provide students with strategies for problem-solving.

Visual aids play a crucial role in explaining arithmetic operations. Tools such as number lines, counters, and diagrams can make abstract concepts more concrete. For example, when teaching addition, teachers can use a number line to visually demonstrate how numbers are combined. Similarly, counters can help students understand subtraction by allowing them to physically remove objects from a set. Visual aids not only enhance understanding but also cater to different learning styles. Some students may grasp concepts better through visual representations, while others may benefit from hands-on activities. Connecting arithmetic operations to real-life contexts makes learning more meaningful and relevant for students. Real-life examples help students see the practical applications of arithmetic and understand why these skills are important. For instance, when teaching multiplication, a teacher might use the example of calculating the total number of apples in several baskets. Similarly, division can be explained through scenarios like sharing equally among friends. These examples help students relate mathematical concepts to their everyday experiences.

Interactive activities engage students in active learning and provide opportunities for hands-on practice. These activities can include games, puzzles, and collaborative tasks that require students to apply arithmetic operations in various contexts. For example, a classroom game where students solve addition and subtraction problems to move forward on a game board can make learning fun and competitive. Group activities, such as solving problems together or explaining solutions to peers, encourage collaboration and

deeper understanding. Scaffolding is a teaching technique that involves providing support to students as they learn new concepts, gradually removing the support as they become more proficient. In teaching arithmetic operations, scaffolding can involve breaking down complex problems into smaller, more manageable steps and providing guidance at each stage. For instance, when teaching division, a teacher might start by explaining simple problems with small numbers and using visual aids. As students become more comfortable, the teacher can introduce more complex problems and gradually reduce the level of support.

To effectively use the method of explanation in teaching arithmetic operations, teachers should follow a structured approach that includes clear objectives, step-by-step explanations, and opportunities for practice and feedback. Before beginning a lesson, it is important for teachers to set clear learning objectives. These objectives should outline what students are expected to learn and be able to do by the end of the lesson. Clear objectives provide a roadmap for both the teacher and students, ensuring that the lesson stays focused and relevant. Effective explanations should be delivered in a step-by-step manner, breaking down complex concepts into smaller, more digestible parts. Each step should build on the previous one, gradually leading students to a comprehensive understanding of the arithmetic operation. For example, when teaching addition, a teacher might start by explaining the concept of combining two numbers, using visual aids such as counters. The teacher can then demonstrate how to write the addition equation and solve it, providing plenty of examples and practice opportunities.

In conclusion, the method of explanation is a powerful tool in teaching arithmetic operations, providing students with the clarity and structure they need to understand and master addition, subtraction, multiplication, and division. By using visual aids, real-life examples, interactive activities, and scaffolding techniques, teachers can create a rich and engaging learning environment that fosters mathematical understanding and proficiency. Through clear explanations, practice opportunities, and constructive feedback, teachers can help students build a strong foundation in arithmetic operations, preparing them for more advanced mathematical concepts and lifelong learning. As educators continue to refine their teaching methods and adapt to the needs of their students, the method of explanation will remain a cornerstone of effective mathematics instruction.

References:

1. Ball, D. L., Thames, M. H., & Phelps, G. (2008). Content knowledge for teaching: What makes it special? *Journal of Teacher Education*, 59(5), 389-407. <https://doi.org/10.1177/0022487108324554>
2. Hiebert, J., & Grouws, D. A. (2007). The effects of classroom mathematics teaching on students' learning. In F. K. Lester Jr. (Ed.), *Second handbook of research on mathematics teaching and learning* (pp. 371-404). Information Age Publishing.
3. Van de Walle, J. A., Karp, K. S., & Bay-Williams, J. M. (2019). *Elementary and middle school mathematics: Teaching developmentally* (10th ed.). Pearson.