

BRIDGING THE GAP: TECHNIQUES FOR MATHEMATICS TEACHERS TO SUPPORT NON-NUMERATE LEARNERS

by:

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Many students find mathematics to be a difficult subject, particularly those who have trouble understanding numerical ideas. It is imperative that educators utilize efficacious tactics and ideas to assist non-numerate learners and foster their confidence in mathematics. There are some strategies that math teachers might use that have been supported by research.

First is the Multi-sensory Learning. Research suggests that incorporating multiple senses into the learning process can enhance comprehension and retention for non-numerate learners (Mayer, 2009). To accommodate various learning styles, teachers can explain mathematical concepts in a variety of ways using tactile materials, visual aids, and auditory signals. Second is the Concrete Manipulatives. Utilizing concrete manipulatives, such as base-ten blocks, fraction strips, or geometric shapes, can facilitate understanding of abstract mathematical concepts (Sowell, 1989). Non-numerate learners can utilize tangible representations provided by these hands-on materials to visualize and solve challenges. Third is Problem-based Learning. Engaging students in problem-solving activities and real-world applications can increase motivation and deepen understanding (Hiebert & Grouws, 2007). Teachers can help non-numerate learners develop critical thinking abilities by putting mathematical problems in context and showing them how useful math is in real-world situations. Fourth is Peer Collaboration. Collaborative learning environments allow non-numerate learners to benefit from peer support and diverse perspectives (Slavin, 1995). Teachers can lead group work projects where students work together to solve problems, exchange ideas, and give each other

feedback. Fifth is the Gradual Release of Responsibility. Guided instruction followed by independent practice can help non-numerate learners develop confidence and autonomy in their mathematical abilities (Pearson & Gallagher, 1983). Teachers have the ability to scaffold learning experiences, offering assistance when required and progressively transferring accountability to students upon demonstrating mastery. Sixth is the Visual Representation. Visual representations, such as diagrams, graphs, and charts, can aid comprehension and communication of mathematical concepts (National Council of Teachers of Mathematics, 2000). Teachers can help non-numerate learners better understand abstract concepts by using visual aids to demonstrate linkages, patterns, and mathematical processes. Lastly, is the Feedback and Reflection. Providing timely and constructive feedback allows non-numerate learners to monitor their progress and identify areas for improvement (Hattie & Timperley, 2007). In order to promote metacognitive abilities that assist autonomous learning and development, teachers can help students engage in self-evaluation and reflection.

Math teachers may establish inclusive learning environments where non-numerate learners feel respected, encouraged, and empowered to succeed in mathematics by putting these evidence-based tactics and ideas into practice.

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