PreACT

Evidence in Action

A K20 Center Research Brief

Effective Math Intervention Strategies for High School Success

Stacy Shamlin Junjulas, Jennifer Lasater McKinney, Kristie Byrne Chandler

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Introduction

This intervention brief explores the findings from the research article, "Leadership lessons from math interventions: Insights into enhancing high school math instruction and student achievement" (2023). The study addresses the effectiveness of various math intervention strategies in Alabama public high schools, focusing on improving student performance on the math portion of the ACT. The authors highlight the significance of identifying effective intervention strategies and the challenges faced by school leaders in implementing these strategies.

Methodology

Research Design:

The study employs a quantitative descriptive design to assess the perceived effectiveness of math intervention strategies used in Alabama high schools.

Sample:

The sample includes 316 Alabama public high schools with a 9-12 or 10-12 grade configuration, excluding virtual, magnet, and charter schools.

Data Analysis:

Data were collected through a 30-question Qualtrics survey, which included both closed-ended and open-ended questions. The survey measured the effectiveness of intervention strategies, intervention class schedules, progress monitoring, and barriers to implementation.

Results

The study found that explicit problem-solving instruction and providing students with feedback were among the most used and perceived effective math intervention strategies. High school leaders reported that these strategies significantly improved student performance on the ACT math portion. The findings suggest that targeted interventions, such as small group instruction and peer-led learning, can improve math proficiency and student engagement. Schools face challenges in scheduling intervention time, but integrating these strategies into the school day can lead to better outcomes.

Application into Practice

To replicate the intervention, schools should focus on:

1. **Explicit Problem-Solving Instruction:** Implement structured problem-solving sessions that provide clear, step-by-step guidance.
2. **Feedback:** Ensure timely and quality feedback to help students understand their progress and areas for improvement.
3. **Small Group Instruction:** Organize small groups based on student ability to provide targeted support.
4. **Peer-Led Learning:** Encourage peer tutoring and collaborative learning to improve student engagement and understanding.
5. **Scheduling:** Integrate intervention time into the school day, balancing core classes and electives to meet state requirements.

Work Cited

Junjulas, S. S., McKinney, J. L., & Chandler, K. B. (2023). Leadership lessons from math interventions: Insights into enhancing high school math instruction and student achievement. *Journal of Education for Students Placed at Risk*, *9*(2), 97–125. https://files.eric.ed.gov/fulltext/EJ1448486.pdf