Does MATmatics Work? Impact of an Early Numeracy Intervention on Students' Math Skills

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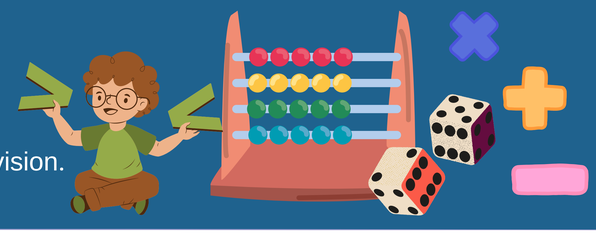


Introduction

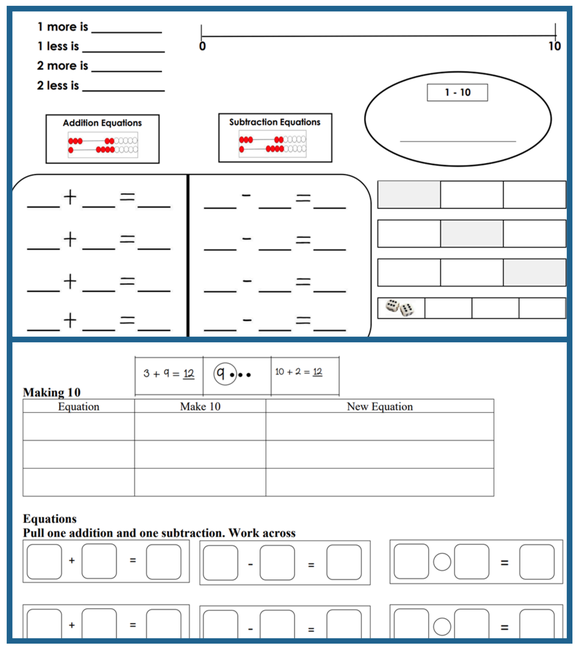
- **Number knowledge, relations, and operations** are core numerical skills, foundational to student[1] success
- **Weak** numerical **skills** have a large **impact** on **student success**[2]
- **Early identification and targeted interventions are crucial** to prevent struggling students from falling behind[3]

Research Question

Will an intervention targeting foundational numerical skills lead to improvement in student performance?

MATmatics Intervention

- 6-8 weeks
- Teacher-designed
- Small group delivery
- Broken down into several scripted mini-lessons targeting number knowledge, relations, and operations



Methods

Participants: 45 students in **Grade 1-3** were **quasi-randomly assigned** to the intervention group (*n* = 23) or wait-listed control group (*n* = 22)

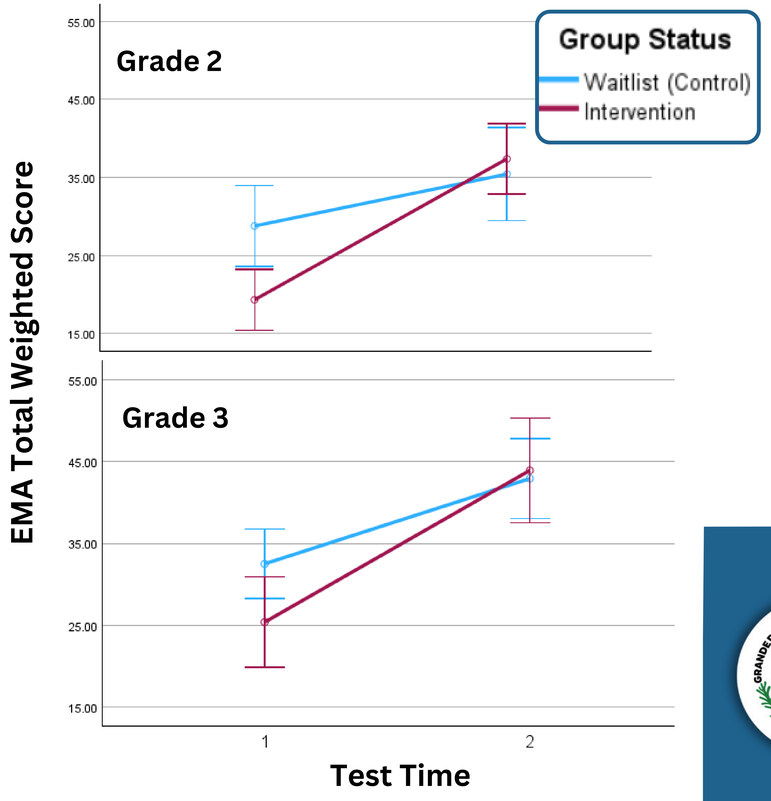
Measure: Early Math Assessment (EMA) @ School

- Assesses early math skills across three domains: number knowledge, relations, and operations

Findings

- **The intervention was effective!**
  - Math skills of students assigned to the intervention improved at a greater rate than the skills of their waitlisted control peers

Interaction Between Test Time and Group:



Interaction Effects: Test Time x Group

Subtasks of the EMA@School:

Number Writing	✓
Number Line Estimation	
Number Ordering	
Number Comparison	
Addition Fluency	✓
Subtraction Fluency	✓
Multiplication Fluency	
Equations	

✓ = **Significant ($p < 0.05$)**

Discussion

- **MATmatics was effective!**
- Interventions targeting foundational numerical skills are important
- Challenges balancing the groups

Scan QR code for references: