Math Learning Disabilities

Difference

not Deficit
Careful Identification of Students with Math Learning Disabilities
2 out of 11 students met criteria

- Unexplained low math achievement
- Lack of Response to Instruction (RTI)
Analysis of tutoring sessions revealed atypical understandings of fractions
Both students had similar atypical understandings of fractional quantity.
Halving Understanding

Typical

Draw \[ \frac{1}{2} \]

shading highlights the **quantity**

Atypical

Draw \[ \frac{1}{2} \]

**Atypical:** Focus on splitting

Contrast of typical and atypical fraction understanding
Fractional Complement Understanding

**Typical**
- Draw: $\frac{3}{4}$
- Interpreted as: $\frac{3}{4}$
- Focus on the fractional quantity

**Atypical**
- Draw: $\frac{3}{4}$
- Interpreted as: $\frac{1}{4}$
- Atypical: Focus on the fractional complement

Contrast of typical and atypical fraction understanding
Atypical Understandings were

Persistent
Reoccurred across tutoring sessions

Robust
Were not resolved through standard instruction

Detrimental
Caused difficulty when working with more complex fraction concepts
Representations of quantity were inaccessible to students with math learning disabilities.
Math Learning Disabilities

Difference ➔ Inaccessibility
CITATION