



# Partnerships to Improve Math for Adults who Learn Differently

What to do when nothing seems to  
work

## Presentation by

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## The Need

- › College students getting stuck
- › Adult Education Students Giving Up
- › Teachers Doing the Same as Always

## A Solution

- › Partner with Others to Meet the Need
  - Higher Education Institution
  - National Association
  - Adult Education Programs
  - Professional Development
- › Operate a Pilot
- › Collect Data
- › Disseminate Findings
- › Encourage Replication

# Roots of Math Problems

- › Computation Errors
- › Weak Quantitative Concepts
- › Poor Performance
  - › Avoidance
  - › Anxiety
    - Information Gaps
    - Insufficient or Inappropriate Instruction
    - Learning Differences, Difficulties or Disabilities

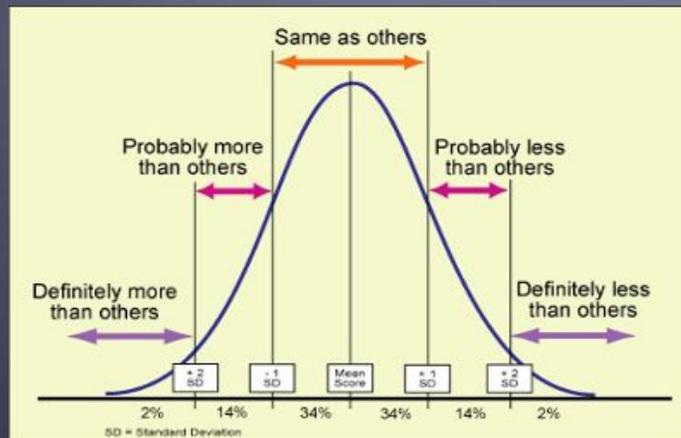
# What Is A Math Disability

- › It is not:
  - Poor instruction
  - Low Intelligence
  - Dislike of numbers and quantities
- › It is similar to other learning disabilities
  - Difficulty with numbers and symbols rather than or in addition to letters and words
  - Confusion about things that are similar
  - Difficulty focusing
- › Dyscalculia

## 3 Dimensional Bell Curve

› All our cognitive functions

› All our senses



## States of Perception

- › Stage 1 - Sensation
  - Five Senses
- › Stage 2 - Language
  - Concepts Embedded in Words
- › Stage 3 - Quantity
  - Numbers Embedded in Quantitative Concepts

# Quantitative Concepts

- › The Percent Symbol %
- › Estimating

# Math Vocabulary

- › Equal
- › Odd and Even
- › Area
- › Volumn

# Number Sense

- › Comparison between numbers and letters
  - 10 digits 26 letters
  - An infinity of numbers about 1,000,000 words in English
- › Patterns in Numbers
  - Logical, easy to see and understand
  - Random, like a universe of bingo numbers
- › Developing Number Sense

# Time

## › Digital vs. Analog Time Pieces

- Number who cannot tell analog time is increasing
  - › Increasing number of digital clocks
  - › Problem with time management

# Learning Number Facts

- › Addition
- › Subtraction
- › Multiplication
- › Division



# Problems with Word Problems