Why are we here today?

Discuss the effects of using a math curriculum that:

- is aligned with NCTM content standards
- uses assistive technology to demonstrate a metacognition of math skills
- is designed with a clear scope and sequence for students with special needs

The problem with math in special education

- lessons planned from IEP – instruction was individualized
- skills were taught in isolation (independent of other skills)
- time, money, and number identification skills taught to mastery
- lack of depth and exposure to content standards
- geometry, measurement, data analysis, and most patterning activities were absent
- assistive technology was used solely as a means of communication
- lack of peer models and generalization of concepts

Something was missing…

General education curriculums

- included too much language
- lacked differentiation
- provided limited group experiences
- lacked opportunities to generalize concepts

Questions we needed to answer:

1) What are the math content areas I need to teach my students?

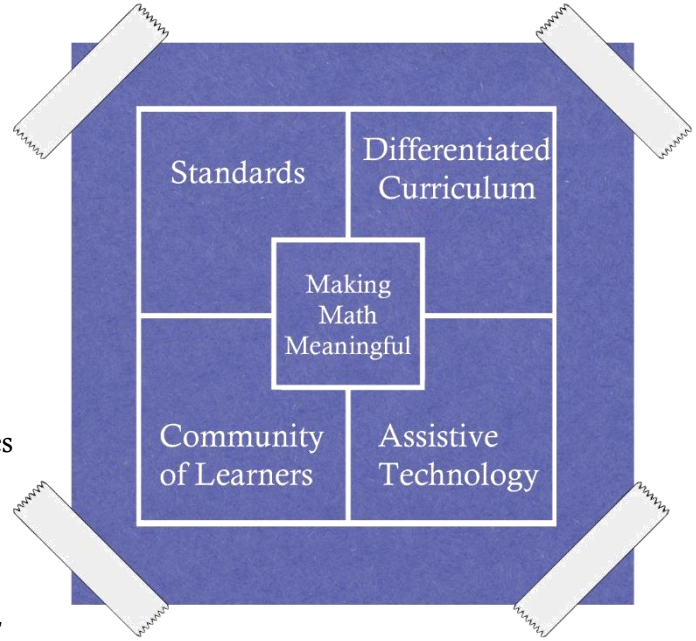
2) What are the needs of my students?

3) How can I make math more accessible to my students?

4) How can we make math a priority in our school?

Why Equals Math fit our program…

- Multi-sensory approach to math
- Differentiated curriculum (concrete, semi-concrete, abstract teaching opportunities)
- Includes all NCTM content areas
- Provides a framework for lessons and creativity
- Assistive technology opportunities embedded within lessons



Levels

Level 1: students with severe/profound disabilities and/or multiple disabilities
Level 2: students with moderate disabilities
Level 3: students with mild disabilities

What our teachers needed to consider

- Special education teachers are math teachers
- All assistive technology is crucial for success
- Students need exposure, practice, and opportunities to experience math

Implementation

Testing for placement

A designated testing team tested all students in the program to ensure:

- scores are true to student knowledge
- efficiency of time to administer test

Initial test allowed for each student to be placed in a group where they were working on new skills that built upon prior knowledge and was best suited to their individual needs.

What we found

Benefits of a whole group model	**Shift in thinking**
- Teachers can adapt lessons to meet their group's needs - Structure of lessons (repetitive, pacing) - Amount of time planning for a lesson decreased - Peer to peer learning	- Teachers saw themselves as not only special education teachers, but as math teachers. - Grouping students does work - Assistive technology makes math accessible to students with special needs

Results from 3 year ongoing study

Year 1 Fall to Spring testing: 72 students, 38% increase
Year 1 Fall to Year 2 Spring: 58 students, 83% increase over 2 years
Year 1 Fall to Year 3 Spring: 38 students, 111% increase over 3 years