Meeting the Needs of Special Education Students

Take Charge To Make Change
WISCONSIN MATHEMATICS COUNCIL
42nd ANNUAL CONFERENCE
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Presenters:

Pandora Bedford-MPS Math Teaching Specialist
Astrid Wagner- MPS Teacher
### Introduction to session:
Session goals & Forecast of learning

Participants should work in groups of 3 to 4 people
(5 min)

### Urgent Facts
This legislation has led to an increase in the number of students with disabilities who are included in regular education classes. Many classroom teachers feel over-whelmed by the challenges of responding to the learning needs of all their students.

We often hear teachers say, "I want all my students to be successful in math, but I’m not sure what to do. I don’t have training in special education and I don’t have much support.”
(5 min)

### Focus on the mathematics (4th grade problem)
Ask the participants to complete math problem and write down the big math ideas embedded in the problem in their own words

(10 min)

### Focus on the student
After finishing the discussion about the mathematics, the focus shifts to thinking about the students.

Each group selects one student and fills out the student’s strengths and weaknesses on the Accessibility Planner. Participants/teachers should share their own experiences with similar students.

(10 min)
### Identify Barriers

By discussing the examples of students, participants have laid the groundwork for identifying potential barriers in the lesson’s mathematics content and tasks.

**Question:** What is the match or mismatch of the lesson with the student’s strengths and weaknesses?

(10 min)

#### Examples:

Possible dialogue that may happen when identifying barriers. “The ‘Dannys’ in my class would be thrown off because there are four graphs and three of everything else.”

“I think those graphs are going to be a problem for Sarah. They look pretty abstract without any numbers or labels.”

### Brainstorm accessibility strategies

Participants are now ready to plan accessibility strategies to address the potential barriers for the students. The goal of these **accommodations** is to address the barriers by providing the scaffolding and support that students need to reach the mathematics goals.

(10 min)

#### Astrid

### Share the Strategies

After brainstorming a list of strategies, each small group selects two or three suggestions to share with the whole group. Each group presents its chosen strategies and explains why they are a good match to their student’s strengths and weaknesses. Teachers often find that the strategies they planned for one student would also benefit other students.

(10 min)

#### Pandora

**Example:** the organizer for Danny would also be helpful for Isabelle, who tends to be careless. The expectation is for teachers to create not twenty-five individual lesson plans but one plan with accessibility built into it. One approach is to select three focal students to act as proxies for the range of diverse learners in the class.

### Plan follow-up actions

Select accessibility strategies to use with your own students when you teach the lesson or similar lessons.

Make a follow-up plan to address the questions “What will I implement? How? With whom?”

(3 min)

#### Astrid

### In closing

Teachers will leave this workshop with specific strategies that they can try in their classrooms and on a broader level, with an accessibility planning process.

(2 min)

#### Pandora
<table>
<thead>
<tr>
<th>Peek view inside a 4th/5th grade regular education/special education classroom at Zabloki School</th>
<th>Astrid/Pandora</th>
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Urgent Facts:

On the national level, 13.2 percent of students have identified disabilities. This translates to 6,195,113 students, a jump of 30 percent from 1990 to 2000.

The *Individual with Disabilities in Education Act* of 1997 (IDEA) mandates that students with disabilities have access to the general education curriculum.
(National Center for Education Statistics 2001)
Session Goals:

• To use a process for identifying potential barriers in a math lesson.

• To discuss the process of making accommodations and modifications in a math lesson.

• To understand the importance of connecting the mathematics curricula to students’ strategies and classroom practices.

• To discuss concepts of full inclusion.

• To preview a classroom that grapples with the assigned math task.
Overview of Session:

1. Complete a math prompt

2. Review “snapshots” of students with disabilities

3. Identify potential barriers/misconceptions of the lesson

4. Brainstorm possible strategies to use based on the students’ needs

5. Develop a plan to implement specific strategies with your own students
6. Peek inside a 4th/5th grade full-inclusion classroom
Matching Numbers, Stories, and Graphs

Lesson: fourth-grade unit, Changes over Time (Tierney et. al. 1998).

**Directions:** Cut out the charts, stories, and graphs. Group them to make three sets that match.
Your plant was growing very slowly on a window sill that got no sunlight. You moved it to a sunny window. Then it started growing more quickly.

Your plant was growing quickly for a while. Then you forgot to water it for several days. That made it grow more slowly.

Your plant was growing quickly for a few days. Then you dropped it and the top of it broke off. It stopped growing for a while before it started growing again.
What are the mathematical goals?

What is most important for all students to learn?

Students connecting three representations: graphical, qualitative, and quantitative.

This involves interpreting each representation and translating among them.
Focus on students

Each group selects one student and fills out the student’s strengths and weaknesses on the Accessibility Planner.
Snapshot of Students

Kevin
Kevin struggles with reading and feels overwhelmed when there is a lot of text on a page. He often gets confused by the wording of directions and therefore is unsure what he is being asked to do. Embarrassed by these difficulties, Kevin is hesitant to ask the teacher or his classmates for help. He is more comfortable when things are presented visually. Often, he draws pictures as a way to figure out the solutions to problems.

Isabelle
Isabella gets easily distracted when the teacher is giving directions and has trouble sitting still during class discussions. Sometimes, she tunes out of the mathematics lesson and tries to sneak reading a book in her desk. Although she does not listen well to her classmates, she is quite articulate and likes to talk about her own ideas, particularly when she works in small groups. Isabelle tends to rush through mathematics problems, leaving out important parts and making careless errors.

Danny
Danny’s desk is a mess. He can spend an entire mathematics lesson looking for his mathematics book or his homework. When he has a multistep problem to solve, he tends to lose track of the steps, get confused, and not finish in time. Danny often manages to get by because he has an excellent memory for mathematical facts and vocabulary. He sometimes misses social cues so his classmates do not like to work with him on small-group activities.

Sarah
Sarah has difficulty making connections with prior lessons, so each problem looks blankly at the page and waits for the teachers to help her. When Sarah knows what to do, she works slowly and carefully. Her papers are neat and well-organized. In class discussions, she is eager to participate but tends to talk about the steps she used to solve a problem without explaining why.
Accessibility planner for ____________

**Mathematical Goals: What are the priorities?**
The priority is for students to connect three representations of data on plant growth. This involves interpreting graphs, written descriptions, and number sequences and translating among the representations.

<table>
<thead>
<tr>
<th>Student’s Strengths</th>
<th>Student’s Weaknesses</th>
<th>Potential Lesson Barriers/Student Difficulties</th>
<th>Accessibility Strategies</th>
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Identify Barriers

What is the match or mismatch of the lesson with the student’s strengths and weaknesses?

For example, the task of reading the descriptions of plant growth may be a barrier for Kevin, who has reading difficulties.

Record this information on the Accessibility Planner.
Brainstorm Accessibility Strategies

What strategies would you use to meet students’ needs and enable them to reach the mathematics goals?

For planning accommodations, it's important for teachers to consider using instructional practices, such as pairing students or using large visuals, before deciding to alter the curriculum materials.
Example: a teacher could help Kevin by suggesting that he highlight or underline words that describe changes in growth, such as “growing quickly.

He can then focus on connecting these important descriptions with the graphs because he prefers visual representations.

This strategy would also help Isabella, who tends to work quickly and carelessly, by helping her to focus and slow down.

Record this information on the Accessibility Planner.
Share the Strategies

Share two or three strategies with the whole group.

Explains why the strategies are a good match to your student’s strengths and weaknesses.
Plan Follow-up Actions

Think/Pair/Share

What strategies would you implement with your students?

How could you collect evidence to see if the strategies were effective?
In closing…

As teachers make accessibility an integral part of lesson planning and classroom practice, they are better able to meet the challenge of reaching all students.

“Education is a Civil Right”
 Peek view inside: 

4th/5th grade regular education/special education classroom

Zablocki School