



Differentiated Instruction in Math

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Video Note Taking Guide

Overview



- Differentiation
- Key Components
 - Standards
 - Assessment
 - Data Analysis
 - Planning
- Conclusion
- Extending the Learning
 - Follow-Up Activities

Differentiation



- Literature Review
 - What Is a Differentiated Classroom?
 - The Rationale for Differentiated Instruction in Mixed Ability Classrooms
 - Reconcilable Differences? Standards-Based Teaching and Differentiation

Differentiated Instruction



- Proactive
- More qualitative than quantitative
- Aimed at offering multiple approaches to content, process, and product
- Student-centered
- A blend of whole class, small group and individualized instruction

Evolution of Ideas



- From
 - Teach
 - Test
 - Pull my hair out
 - Blame the test
 - Stay put
 - Move on, leaving children behind
 - Teach

Evolution of Ideas



- To
 - Plan
 - Map out content using standards
 - Develop assessments based on content map
 - Pre-test students & analyze data for the purpose of differentiating instruction
 - Differentiate instruction
 - Post-test & analyze for the purpose of collaboratively improving instruction
 - Plan

Standards



- State standards guide instruction
- Organization of standards
 - Curriculum map

Assessment



- Why do we assess?
- Why do we need to use formal and informal assessments?

Informal Assessment



- Why is this important?
- What kind of information can I gain?
 - Student interest
 - Strategies
 - Needs
 - Strengths

Informal Assessment cont.



Meet Elaine	Meet Ryan	Meet Kaylee
Scored 5/20 on standardized assessment	Scored 5/20 on standardized assessment	Scored 16/20 on standardized assessment
Recognizes some basic shapes	Identifies all basic shapes	Identifies all basic shapes
No evidence of sorting	Sorts objects by one attribute (color)	Sorts by multiple attributes and verbally labels groups
No evidence of creating or extending patterns	No evidence of creating or extending patterns	Creates ab patterns, extends ab, abc patterns
Counts to 12	Counts to 29	Counts to 100+
Recognizes numbers to 5	Recognizes numbers to 7	Recognizes numbers to 100
Prefers to work by herself	Often inquires, "Is it math time yet?"	Transformed "sorting" skill to sorting friends names by syllable
Sorts laundry and snack for homework	8 out of 10 days, Henry chose to make a snake with unifix cubes after completing an assigned task	Enjoys teaching peers new games and concepts
Often says "I made a pattern" and there's no evidence of a pattern		Creates new versions of classroom games and activities

Informal Assessment cont.



■ How and when do I get this information?

- Anecdotal notes
 - Observation
 - Interaction
 - Analysis
- Daily and ongoing

■ How can I use the information?

- Planning
- Communication

Formal Assessment



■ What is formal assessment?

- Overview of formal assessments
 - State/district required assessment
 - Adopted textbook assessments
 - Standards-based assessments

■ What information can I gain?

■ How can I use the information?

Data Analysis



- **Why analyze the data?**
 - Item analysis
 - Grade-level data analysis
 - Using the data to improve student learning

Planning



- **Using data to guide instruction**
 - How can we use the data we've collected?
- **Grouping strategies**
 - When do we utilize whole group, small group, and individualized instruction?

Differentiating Activities



- **Begin with your standard**
- **Adapt the activity to meet the needs of a variety of learners**
- **Example**
 - Race To The Top!

Extending the Learning



- **Web-based fall follow-up**
 - Our commitment
 - Your responsibilities

Activity 1 - Differentiated Task



Select a math standard from your grade level and create an activity for your students. Next, create two differentiated activities that address the needs of an advanced learner and a struggling learner.

- What are the benefits of differentiated tasks?
- How does your activity support student learning?
- Describe student learning while engaged in these activities.
- Brainstorm additional activities to meet this standard.

Activity 2 - Item Analysis



Give your students a pre-assessment before beginning an instructional unit and chart student data. Analyze the data to answer the following questions:

- What did you learn from your data?
- How can you use whole group, small group, and individualized instruction to best meet the needs of all learners?
- What instructional decisions did you make resulting from your data analysis?
- How can an item analysis improve your teaching and student learning?

Activity 3 - Collaborative Team Analysis



As a collaborative grade-level team, administer an assessment and itemize the data of your grade-level team.

- What are the benefits of team collaboration?
- How can this collaborative experience increase student learning?
- Reflect on this activity.
