

Differentiation Made Easy: An Oxymoron?

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•Differentiating Curriculum and Instruction for All Learners

- ◆ Introduction
- ◆ Differentiation
- ◆ Preassessment
- ◆ Grouping
- ◆ Examples
- ◆ Your Turn...

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•Rationale for Differentiation

- ◆ Multifaceted Nature of Giftedness
- ◆ Heterogeneous Classrooms
- ◆ Identification vs. Programming
- ◆ Lack of Internal Consistency
- ◆ Students' Learning Profiles
- ◆ Emphasis on Rote Learning

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Key Facets of Differentiation

- ◆ Ensure advanced content
- ◆ Work with complex concepts
- ◆ Demonstrate interdisciplinary connections
- ◆ Practice good reasoning, habits of mind, and self-directed action
- ◆ Discuss conflicting ethical appeals

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•Research on Differentiation

- ◆ The Curriculum Compacting Study
 - (Reis et al., 1993)
- ◆ Extending the Pedagogy of Gifted Education to the Regular Classroom
 - (Burns et al., 2001)
- ◆ The Effects of Grouping and Curricular Practices on Students' Math Achievement
 - (Tieso, 2000)

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•Concerns about Differentiation

- ◆ Ability Grouping
- ◆ Preassessment
- ◆ Time, Time, Time
- ◆ Classroom Management
- ◆ Resources and Materials
- ◆ Lack of administrative support and school board policy

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Curriculum Differentiation

◆ Is a process teachers used to enhance learning to improve the match between the learner's unique characteristics and various curriculum components. Differentiation involves making changes in the depth or breadth of student learning. Differentiation is enhanced with the use of appropriate classroom management, varied pedagogy, pretesting, flexible small groups, access to support personnel, and the availability of appropriate resources.

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Some Principles of a Differentiated Classroom

- ✓ The teacher is clear about what matters in subject matter.
- ✓ The teacher understands, appreciates, and builds upon student differences.
- ✓ Assessment and instruction are inseparable.
- ✓ The teacher adjusts content, process, and product in response to students' readiness, interests, and learning profile.
- ✓ All students participate in respectful work.
- ✓ Students and teachers are collaborators in learning.
- ✓ Goals of a differentiated classroom are maximum growth and individual success.
- ✓ Flexibility is the hallmark of a differentiated classroom.

(Tomlinson, 1995)

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Ways to Differentiate Teaching and Learning

◆ Cognitive Level	◆ Instructional Strategies
◆ Resources	◆ Group Size
◆ Products	◆ Homework
◆ Support or Guidance	◆ Depth
◆ Time Allocation	◆ Breadth

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What are the ten components of a comprehensive curriculum unit, lesson, or task?

- ◆ Content
- ◆ Assessment
- ◆ Introduction
- ◆ Teaching Strategies
- ◆ Learning Activities
- ◆ Grouping Strategies
- ◆ Products
- ◆ Resources
- ◆ Extension Activities
- ◆ Modification (Ascending Levels of Intellectual Demand)⁹

What's Your Criteria?

1. Nature of the Objective
2. Number of Students Needing Differentiation
3. Time for Teaching/Planning
4. Availability of Resources
5. Instructional Repertoire
6. Parental Support
7. Student Behavior
8. The Power of the Strategy to Enhance Learning

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Ways in Which Individuals Can Differ

- ⇄ Prior Knowledge or Skill Expertise
- ⇄ Learning Rate
- ⇄ Cognitive Ability
- ⇄ Learning Style Preference
- ⇄ Motivation, Attitudes, and Effort
- ⇄ Interest, Strength, or Talent



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Finding the Best Fit: Various Strategies for Addressing Individual Differences

- ◆ Acceleration
- ◆ Curriculum Compacting
- ◆ Interest Based Enrichment and Talent Development
- ◆ Open-Ended Activities and Products
- ◆ Alternatives and Choices
- ◆ Tiered Questions/Assignments



Acceleration

- ◆ Moving independently through curriculum
- ◆ Grade Skipping
- ◆ Subject Skipping
- ◆ Early Admission
- ◆ Credit by Examination (AP)
- ◆ Correspondence Courses
- ◆ Telescoping
- ◆ Early Admission to College
- ◆ International Baccalaureate
- ◆ SMPY

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•Curriculum Compacting: A Definition

- ◆ Curriculum compacting is a system designed to adapt the regular curriculum to meet the needs of gifted students by eliminating work that has been previously mastered and streamline it at a pace commensurate with the students' abilities.

■ (Reis & Westberg, 1994)

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•Curriculum Compacting

- ◆ 60% of fourth graders in the school districts studied were able to achieve a score of 80% or higher on a test of the content of their math texts before they opened their books in September.

■ (Reis & Westberg, 1994)

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•Curriculum Compacting

- ◆ 78% to 88% of fifth- and sixth-grade average and above-average readers could pass pretests on basal comprehension skills before they were covered by the basal reader.

■ (Taylor & Frye, 1988)

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•Curriculum Compacting: Concerns

- ◆ Some teachers do not believe that gifted students should be excused from doing work they already have mastered
- ◆ Some school districts' renewed emphasis on mastery and achievement tests has resulted in administrative pressure to spend more time on predetermined tasks

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Goals of Compacting

- ◆ Create a challenging learning environment in the classroom and in the enrichment program.
- ◆ Define objectives and guarantee proficiency in basic curriculum.
- ◆ Find time for alternative learning activities based on advanced content and individual student interest.

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Rationale for Curriculum Compacting

1. Textbooks have been "dumbed down."
2. Students experience repetition of content each year and know much of the regular curriculum content before "learning it."
3. The quality of textbooks has not drastically improved.
4. The needs of high ability students are often not met in classrooms.
5. The pace of instruction and practice time can be modified.
6. Compacting enables differentiation to occur and provides educational accountability for students.

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Student Behaviors That May Suggest That Compacting is Necessary

- ◆ Consistently finishes tasks quickly
- ◆ Finishes reading assignments first
- ◆ Appears bored during instruction time
- ◆ Consistently daydreams
- ◆ Creates own puzzles, games, or diversions in class
- ◆ Brings in outside reading material
- ◆ Has consistently high performance in one or more academic areas
- ◆ Asks questions that indicate advanced familiarity with material
- ◆ Uses vocabulary and verbal expression in advance of grade level
- ◆ Expresses interest in pursuing alternative or advanced topics

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Eight Steps for Implementing Curriculum Compacting

Step One	Identify the learning objective.
Step Two	Find or develop a pretesting format.
Step Three	Identify students who may benefit from curriculum compacting.
Step Four	Pretest students to determine prior knowledge.
Step Five	Eliminate practice or instructional time.
Step Six	Streamline instruction or assignments.
Step Seven	Offer enrichment or acceleration options.
Step Eight	Keep records of this process and the instructional options available to "compacted" students

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The Compactor

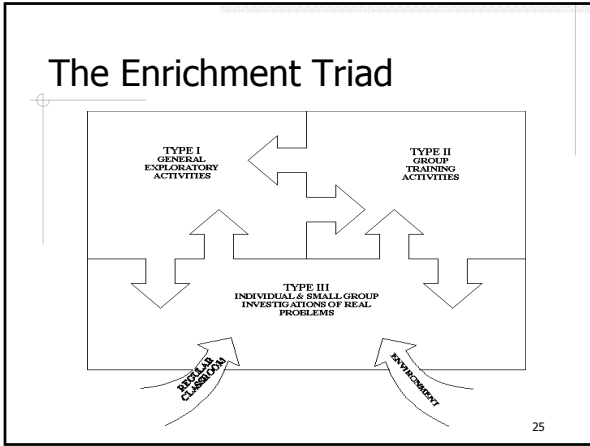
Curriculum Areas to be Considered for Compacting	Procedures for Compacting Basic Material	Acceleration and/or Enrichment
<i>Name it.</i>	<i>Prove it.</i>	<i>Change it.</i>
<i>What material needs to be covered?</i>	<i>Exactly what material is to be excluded?</i>	<i>What enrichment and/or acceleration activities will be included?</i>
<i>What evidence shows a need for compacting?</i>	<i>How will you demonstrate mastery?</i>	<i>Independent study Acceleration Mini-courses Mentorships Small Group Investigations</i>

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Open-Ended Activities

◆ If the differences among students suggest varying style preferences or interests, the teacher might consider altering the breadth of the learning activities, the resources, or the related student products and assignments. This kind of differentiation strategy provides students with *alternatives* and *options* for addressing the learning objectives.

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Open-Ended Strategies

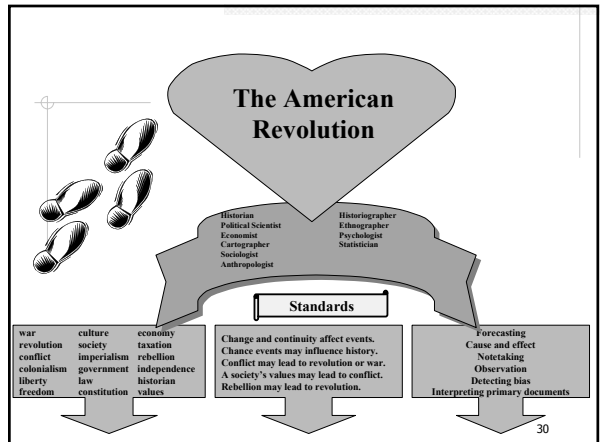
- ◆ Constructivism
 - Connect new learning to students' own individual experiences and interpretations
- ◆ Higher level or inductive questioning
- ◆ Open-ended assignments
- ◆ Problem-based learning

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Checklist for Developing a Problem...

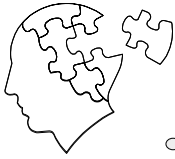
- ◆ Selected appropriate content?
- ◆ Determined availability of resources?
- ◆ Written a problem statement that
 - is developmentally appropriate?
 - is grounded in student experience?
 - is curriculum based?
 - allows for a variety of teaching and learning strategies and styles?
 - is ill-structured?

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CONCEPTS...

are abstract or concrete ideas that can be used to classify and categorize examples and illustrations or to understand key features and defining characteristics.



As I see it, migration is a term that describes the purposeful movement of people. The Westward Movement is an example of migration.

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Examples of Conceptual Knowledge



- ◆ Planet
- ◆ Constellation
- ◆ State Capitals
- ◆ Government
- ◆ Nutrition
- ◆ Transportation
- ◆ Conflict
- ◆ Horizon
- ◆ Symmetry
- ◆ Balance
- ◆ Irony
- ◆ Emergency
- ◆ Science Fiction
- ◆ Addition
- ◆ Octagon
- ◆ Force
- ◆ Gravity
- ◆ Precipitation



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Discipline-based Concepts



- ◆ **Art**-color, shape, line, form, texture, negative space
- ◆ **Literature**-perception, heroes and antiheroes, motivation, interactions, voice
- ◆ **Mathematics**-number, ration, proportion, probability, quantification
- ◆ **Music**-pitch, melody, tempo, harmony, timbre
- ◆ **Physical Education**-movement, rules, play, effort, quality, space, strategy
- ◆ **Science**-classification, evolution, cycle, matter, order
- ◆ **Social Science**-governance, culture, revolution, conflict, and cooperation

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What's the Big Ideology? Concepts

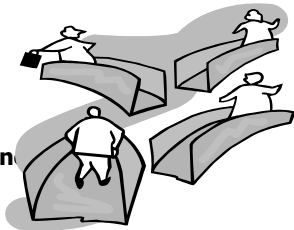
- ◆ spectrum, ideology, politics, issue, conservative, liberal, fascist, radical, moderate, reactionary, anarchist, sample, questionnaire, graph, chart.



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Sample Macroconcepts

- ◆ Change
- ◆ Continuity
- ◆ Systems
- ◆ Interactions
- ◆ Patterns
- ◆ Interdependent
- ◆ Order
- ◆ Form



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Ascending Levels of Intellectual Demand



- ◆ Vary the depth
- ◆ Adjust the abstraction
- ◆ Change the complexity
- ◆ Make contexts and examples more or less novel or familiar
- ◆ Adjust the pace
- ◆ Use more/less advanced materials and text
- ◆ Provide more/less scaffolding
- ◆ Provide frequent/intermittent feedback
- ◆ Provide/let students infer related strategies
- ◆ Infer concepts from applications and problem solving
- ◆ Provide more/fewer examples
- ◆ Be more/less explicit/inductive
- ◆ Provide simpler/more complex problems and applications
- ◆ Vary the sophistication level
- ◆ Provide lengthier/briefer texts
- ◆ Provide more/less text support
- ◆ Require more/less independence or collaboration
- ◆ Require more/less evidence
- ◆ Ask for/provide analogies
- ◆ Teach to concepts before/after examples
- ◆ Teach principles before/after examples or concepts

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Problem-Based Learning Scenarios

◆ You have been hired by Arnold Schwarzenegger to run his political campaign for governor of Virginia. Since you have so little time until the October 7 special election to prepare your candidate on the issues, you have decided to survey a random sample of citizens from around the state. Design a political questionnaire, with descriptions of the major issues, that will inform your candidate on the temperature of the body politic. Find an appropriate sample, generate a visual representation, and present your findings to Arnold's campaign staff. Help your candidate place himself on the political spectrum and define his ideology. Can your candidate win the White House someday? Why/not?



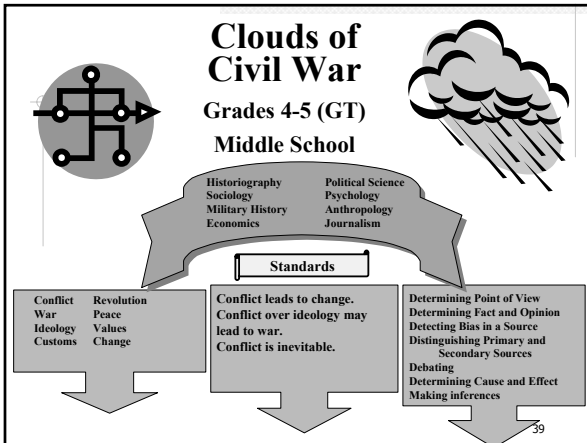
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Grades 4-8 Clouds of Civil War

Content Knowledge	Social studies programs should include experiences that provide for the study of how people create and change structures of power, authority, and governance (NCSS, 2004).
Assessment	PBL: The Civil War: Who's to Blame?
Introduction	Ask students if they're familiar with the story of The Three Little Pigs; solicit ideas
Teaching Methods	Socratic Seminar; Discussion
Learning Activities	Determining Point of View Determining Fact and Opinion
Resources	The True Story of the 3 Little Pigs; primary documents on point of view
Products	Photo essay, political cartoon, diary entry
Grouping	Whole group, Small group based on choice
Extensions	Read journal entries based on role choice
Ascending Levels	Editorial on who has caused all wars.

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A Problem-Based Example

◆ The year is 1865. President Lincoln has been assassinated and President Johnson has convened a special committee to look into who was to blame for five years of brutal civil war. He has asked you to sit on the committee and present your findings (based on your personal experiences) to the committee and the entire Congress.

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Alternative Activities

- ◆ Purpose: to increase the breadth by increasing the use of options and alternatives within lesson and unit plans.



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Alternatives and Choices

- ◆ The teacher provides whole group introduction and instruction and launches individual students on alternative missions.
 - Choice of resources
 - Product options
 - Varying goals
 - Alternative activities



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One Sample Sequence

- ◆ *Enhanced, whole class introduction*
- ◆ *Common objectives*
- ◆ *Common text or set of resources*
- ◆ *Common learning activities*
- ◆ *Use of inductive thinking*
- ◆ *Varied questions among students*
- ◆ *Varied products and assignments*

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Tiered Activities

To Alter the Depth of a Lesson

- ◆ Key Features
 - Whole group introduction
 - Whole group initial instruction
 - Identification of developmental differences



Increase/Decrease:

- Abstraction
- Extent of Support
- Sophistication
- Complexity of

•Goals/resources/activities/products

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Moving Toward Differentiation

Simple	↔	Complex
Concrete	↔	Abstract
Single-faceted	↔	Multi-faceted
Small leap	↔	Great Leap
Closed	↔	Open
Less Independence	↔	Greater Independence
Foundational	↔	Transformational
Slow	↔	Quick

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Selecting a Preassessment Technique

- ◆ What is the most powerful difference you expect to see among students?
- ◆ How might you identify these potential differences in your students?



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Preassessment Techniques



- K-W-L Charts
- Journals
- Parent Letters
- Lists, Surveys
- Products
- Performances
- Conferences
- Concept Maps

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Making Sense of Pretest Data

1. *Think like an anthropologist or ethnographer.*
2. *Sort the pretests into 1-4 groups based on common differences.*
3. *Name the learning difference.*
4. *Decide if/how to address this difference through differentiated teaching/learning activities or resources.*

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Flexible Small Groups: A Definition

- ◆ Group membership varies
 - By prior knowledge, interests, preferences
- ◆ Group longevity varies
- ◆ Group varies by purpose
 - Instruction, learning activities, topic, resources, product development
- ◆ Group varies by size
 - 2-10 students

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A Rationale for Flexible Small Groups

- ◆ More attentive to individual needs than permanent small groups
- ◆ More responsive to individual differences than whole group work
- ◆ Less damaging to self-esteem than full-time ability grouping
- ◆ Based on social learning theory
- ◆ More effective than random cooperative learning groups
- ◆ Provides for scaffolding
- ◆ Addresses students' Zone of Proximal Development

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Designing Small Group Activities

- ◆ Goal (instruction, learning, or product development)
- ◆ Directions
- ◆ Resources
- ◆ Rules-/Requirement
- ◆ Timeline or Sequence
- ◆ Activities
- ◆ Evidence
- ◆ Reaction

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Locating FSG Options, Resources, and Activities

- ◆ Teachers' guides
- ◆ Enrichment materials for children
- ◆ Magazines and newspapers
- ◆ Software
- ◆ Activity books
- ◆ Webquests
- ◆ ERIC and the web

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Selecting FSG Activities: The Acid Test

- ◆ Are they related to our learning goals?
- ◆ Do they lend themselves to a small group activity?
- ◆ Do they offer differentiation opportunities?
- ◆ Are they motivating and appealing?
- ◆ Can they be completed in an appropriate timeframe?
- ◆ Will they be too disruptive?
- ◆ Can the work be documented and analyzed?

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Preparing Students for FSGs

- ◆ Clear and consistent management procedures
- ◆ Class meetings and overviews of various FSG activities
- ◆ Gradual introduction (mix of new and old activities)
- ◆ Dry-runs (role-playing, problem solving, feedback)
- ◆ September orientation sessions

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Monitoring Students

- ◆ Roving
- ◆ Signs
- ◆ Silent signals
- ◆ Progress charts
- ◆ Helpmates
- ◆ Contracts
- ◆ Checklists
- ◆ Products
- ◆ Reflective logs

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Monitoring Student Activities

- ◆ Contracts or progress charts
- ◆ Self-correcting activities
- ◆ Reflective logs
- ◆ Sharing time

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Rules, Expectations, and Consequences

- Noise levels
- On-task behavior and accountability
- Movement (how to)
- Sharing (how to)
- Help and cooperating with others
- Consequences

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Management Strategies

- ❑ Start small
- ❑ Design a schedule
- ❑ Plan and get feedback
- ❑ Check and recheck for quality assurance
- ❑ Rearrange the room
- ❑ Design monitoring devices
- ❑ Provide students with an orientation
- ❑ Start with product groups
- ❑ Gather evidence

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Anchor Activities

- ◆ Portfolio management
- ◆ Journal writing
- ◆ Routine rehearsal tasks
- ◆ Centers or stations
- ◆ Silent reading
- ◆ Manipulatives

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Scheduling and Rotations

Three Group Paradigm

- ✓ Instruction (A, B, C, Free)
- ✓ Learning Activities (Open, A, B, C)
- ✓ Centers (C, Open, A, B)
- ✓ Anchoring Activities (B, C, Open, A)

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Difficulties with Flexible Small Groups

Teachers' efficacy levels
Planning, support, and technical assistance
Scheduling and rotations
Room arrangements
Resources
Student behavior
Monitoring student learning

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Planning for the Future

Subject area decisions
Teaming, volunteers, and support
Resource acquisition
Scheduling planning time
Implementation
Collection and sharing of evidence
Monitoring results

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One Last Thought...

"Instruction is good only when it precedes ahead of development, when it awakens and rouses to life those functions which are in the process of maturing...it is in this way that instruction plays an extremely important role in development."

■ Vygotsky, 1956

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