Differentiation Made Easy: An Oxymoron?

OAGC 2009

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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.

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.

(Roundtree, 1993)

Rationale for Differentiation

• Multifaceted Nature of Giftedness
• Heterogeneous Classrooms
• Identification vs. Programming
• Lack of Internal Consistency
• Students’ Learning Profiles
• Emphasis on Rote Learning

Ways to Differentiate Teaching and Learning

<table>
<thead>
<tr>
<th>Cognitive Level</th>
<th>Instructional Strategies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resources</td>
<td>Group Size</td>
</tr>
<tr>
<td>Products</td>
<td>Homework</td>
</tr>
<tr>
<td>Support or Guidance</td>
<td>Depth</td>
</tr>
<tr>
<td>Time Allocation</td>
<td>Breadth</td>
</tr>
</tbody>
</table>

The Teaching Strategies Continuum

Direct

• Lecture
• Drill and recitation
• Direct instruction
• Strategy-based instruction
• Coaching
• Concept attainment
• Synectics
• Demonstration
• Socratic questioning
• Visualization

Indirect

• Role playing
• Cooperative learning
• Mock Trial
• Simulations
• Inquiry-based instruction
• Constructivism
• Problem-based learning
• Internships
• Mentorships
• Independent study
• Research and investigations
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What are the ten components of a comprehensive curriculum unit, lesson, or task?

- Content
- Grouping Strategies
- Assessment
- Products
- Introduction
- Resources
- Teaching Strategies
- Extension Activities
- Learning Activities
- Differentiation

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

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

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
- Telescopying (MS, HS)
- Early Admission (Kindergarten, College)
- International Baccalaureate
- Talent Search (Duke TIP, CTY)

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.

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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)

- 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)

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.

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.

The Compactor

<table>
<thead>
<tr>
<th>Curriculum Areas to be Considered for Compacting</th>
<th>Procedures for Compacting Basic Material</th>
<th>Acceleration and/or Enrichment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name it.</td>
<td>Prove it.</td>
<td>Change it.</td>
</tr>
<tr>
<td>What material needs to be covered?</td>
<td>Exactly what material is to be included?</td>
<td>What enrichment and/or acceleration activities will be included?</td>
</tr>
<tr>
<td>What evidence shows a need for compacting?</td>
<td>How will you demonstrate mastery?</td>
<td>Independent study Solutions Mini-Course Mentorships</td>
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An Example...OH Grades 11-12

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<tr>
<td>Explain ways characters confront similar situations and conflict.</td>
<td>How will you demonstrate mastery?</td>
<td>Tiered learning</td>
</tr>
<tr>
<td>Acceleration and/or enrichment activities will be included.</td>
<td></td>
<td></td>
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Tiered lesson:
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The Enrichment Triad

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.

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

Creative Thinking Skills

- SCAMPER
- Talents Unlimited
- Creative Problem Solving
- DeBono’s Six Thinking Hats
- Synectics
- Creative Dramatics
- What else???

Alternative Activities

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

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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**Checklist for Developing a Problem...**
- Selected appropriate content?
- Determined availability of resources?
- Included an evaluation tool?
- 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?

**PBL: A Mathematics Example**
A new elementary school is being constructed next to our middle school. It will house approximately 600 children, grades K-5. The cost of the school is $3 million, of which 7.5% is set aside for the construction of the playground. Your job is to present the builders with a number of playground designs making sure you stay within the budget and also making sure that the playground accommodates children in grades K-5 (Brooks & Brooks, 1997).

**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

**Differentiation Techniques**
- 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 longer/briefer tests
- Provide more/less text support
- Require more/less independence or collaboration
- Require more/less evidence
- Ask for/provide analogies
- Teach to concepts before/after problems
- Teach principles before/after examples or concepts
**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

**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