Differentiating Instruction with Technology

Amanda C. Oxford
Georgia Network of Educators and Therapeutic Support, aoxford@nwgnets.org

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DIFFERENTIATED INSTRUCTION WITH TECHNOLOGY

Amanda Oxford
GNETS Area Administrator
aoxford@nwgnets.org
“When a teacher tries to teach something to the entire class at the same time, chances are,

one-third of the kids already know it; one-third will get it; and the remaining third won’t.

So two-thirds of the children are wasting their time.”

~Lilian Katz (teacher educator)
**What is differentiation???

- **Differentiation**
  - Modifies content, process, product and learning environment based on assessed needs

- **Scaffolding**
  - Breaking up a learning experience, concept or skill into discrete parts, then giving students the assistance needed to learn the part

- **Differentiation and Scaffolding BOTH**
  - Move student learning and understanding from where it is to where it should be
  - Blended in a classroom to the point that the two are indistinguishable
  - Essential to learning and engagement
Differentiation is NOT...

- individualized instruction
- just small group work
- making things comfortable/easier for students
- changing up your style

~Bentz
a teacher who collects and uses assessment data

a teacher who recognizes students need more than one way to experience learning

Differentiation IS...

a teacher who is proactive rather than reactive

balancing effort with SUCCESS!

~Bentz
## Traditional vs. Differentiated

<table>
<thead>
<tr>
<th>Traditional</th>
<th>Differentiated</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student differences ignored or acted upon when problematic</td>
<td>Student differences studied as a basis for planning</td>
</tr>
<tr>
<td>Assessment only at the end of learning to see “who got it”</td>
<td>Assessment on-going and diagnostic to be responsive to learning needs</td>
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<tr>
<td>One definition of excellence exists (100 percent achievement, on objectives tested once)</td>
<td>Excellence defined in large measure by individual growth for a starting point</td>
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<tr>
<td>Student interest infrequently tapped</td>
<td>Students frequently make interest-based learning choices</td>
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<tr>
<td>Whole-class instruction dominates</td>
<td>Many instructional arrangements (groupings, partner work, centers)</td>
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<tr>
<td><strong>Traditional vs. Differentiated</strong></td>
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<td>-----------------------------------</td>
<td></td>
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<tr>
<td>Coverage of texts and curriculum drives instruction</td>
<td></td>
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<tr>
<td>Single option assignments</td>
<td></td>
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<tr>
<td>A single text prevails</td>
<td></td>
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<tr>
<td>Time is relatively inflexible</td>
<td></td>
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<tr>
<td>Students assessed in one way</td>
<td></td>
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<tr>
<td>Curriculum/standards still drives instruction</td>
<td></td>
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<tr>
<td>Multi-option assignments</td>
<td></td>
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<tr>
<td>Multiple materials provided (visuals, manipulatives)</td>
<td></td>
</tr>
<tr>
<td>Time is flexible, based on student need</td>
<td></td>
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<tr>
<td>Students assessed in multiple ways</td>
<td></td>
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</tbody>
</table>

~teachingasleadership.org
DIFFERENTIATE CONTENT

- What the teacher plans to teach

- What the students need to learn

- Presenting material to students in more than one way everyday!
  - Auditory, Visual, Kinesthetic, Tactile, etc.

- Determined through pre-assessment and formative assessment

- Take the time to be thorough!
Content Methods
- Textbooks
- Speakers
- Fieldtrips (real or virtual)
- Videos
- Demonstrations
- Lectures
- Internet sources
- Paper resources (newspaper, magazines, books)
- Power point
- Podcasts
- Webquests

Differentiated
- Varying reading level of materials
- Putting text on CD/Tape/Ipod
- Grouping/peer buddies
- Multi-level questioning
- Real world materials/examples
- Multi-level computer programs
- Meeting with small group to re-teach skill or extend skill
- Modeling
- Vocabulary instruction based on readiness level
- Use more than one method of presentation
- Graphic organizers
- Fill in blank notes
TECHNOLOGY RESOURCES FOR CONTENT

- Multi-level Computer programs
  - [www.IXL.com](http://www.IXL.com) (math and LA k-12)
  - [www.raz-kids.com](http://www.raz-kids.com) (leveled e-books k-5)
  - [www.mobymax.com](http://www.mobymax.com) (math, LA, Science k-8)
  - Getkahoot.com and Kahoot.it (learning games)
  - [www.brightstorm.com](http://www.brightstorm.com) (9-12 math, science, LA, test prep)
  - [www.digitalhistory.uh.edu](http://www.digitalhistory.uh.edu) (6-12 Social Studies)
  - [www.kahnacademy.org](http://www.kahnacademy.org) (k-12 multi subject)
  - Sketchpad Explorer App (1-10 math)
DIFFERENTIATE PROCESS

- Don’t skip this step!

- How students will access information

- Activities the students engage in order to make sense of the content

- Tiered activities in which all learners work with the same information, understanding, and skills but proceed with different levels of support, challenge or complexity

- Can be teacher led, collaborating as a class, collaborating in pairs, homogenous or heterogeneous ability groups, or independent work
<table>
<thead>
<tr>
<th>Process Methods</th>
<th>Differentiated</th>
</tr>
</thead>
<tbody>
<tr>
<td>o Worksheets</td>
<td>o Centers/stations</td>
</tr>
<tr>
<td>o Graphic organizers</td>
<td>o Manipulatives</td>
</tr>
<tr>
<td>o Teacher led</td>
<td>o Jigsaw</td>
</tr>
<tr>
<td>Discussion</td>
<td>o Think, Pair, Share</td>
</tr>
<tr>
<td>o Teacher led practice</td>
<td>o Labs</td>
</tr>
<tr>
<td>o Work at the board</td>
<td>o Role play/simulations</td>
</tr>
<tr>
<td>o Vocabulary activities</td>
<td>o Web quests</td>
</tr>
<tr>
<td>o KWL</td>
<td>o Journaling</td>
</tr>
<tr>
<td>o Dipstick or Summarizing strategies</td>
<td>o Cubing (can be process or product)</td>
</tr>
<tr>
<td>o Blooms Taxonomy</td>
<td>o Tiered practice problems</td>
</tr>
<tr>
<td></td>
<td>o Solve a mystery/problem scenario</td>
</tr>
<tr>
<td></td>
<td>o Heterogeneous or homogenous grouping</td>
</tr>
<tr>
<td></td>
<td>o Collaborate as a class, group, or pairs</td>
</tr>
</tbody>
</table>
TECHNOLOGY RESOURCES FOR PROCESS

- www.edutechalogy.org go to blog
- exploredifferentiation.wikispaces.com
- Daretodifferentiate.wikispaces.com
- www.schrockguide.net
- www.learnnc.org
- www.doe.in.gov/highability/resources-and-publications go to Tiered Curriculum Project
- Padlet.com, Google drive, Bubbl.us, www.twiddla.com
Scaffolding is part of the Process

- Provides a safety net for students
- Happens before and during teaching
- Breaks learning into chunks, then provides structure or a tool with each chunk
  - Activating and previewing strategies
    - Investigate prior knowledge, making predictions, piquing interest, allow time to share personal experiences
  - Show and tell (show sample product, discuss rubric or criteria, what steps do they follow)
  - Think aloud – as you teach model thought processes
  - Quality Questioning - Pause, Ask, Pause, Review
  - Using chants, mnemonics, visual or verbal cues/reminders
SCAFFOLDING THROUGH TRANSITIONS

- PBIS can help
  - Posted behavioral expectations
  - Explicitly teaching and practicing transitions
  - Reinforce and reward!!

- Activating strategies
  - Hook interest and get brains engaged in what is coming next
  - Max Thompson strategies: KWL, word splash, word maps
  - Personal story, visual aide, brainstorming
  - Should be fun and require interaction
  - Can also include reviewing previously taught material in a fun way
SCAFFOLDING THROUGH TRANSITIONS

Good closing steps:

- Have a predetermined plan for those who finish early, then better differentiate for them the next time
- Find a stopping point and come together
- Review academic and behavior positives
- Allow time to share
- Release and start getting set up for the next lesson
**Differentiate Product**

- How the student will demonstrate what he/she has learned

- Special Education students can do all the things other student do, given time, a sample, and support!
<table>
<thead>
<tr>
<th>Common products</th>
<th>Differentiate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Create a poster</td>
<td>Product Menu/Choice board (Tic Tac Toe)</td>
</tr>
<tr>
<td>Create a Powerpoint</td>
<td>Cubing, Think Dots</td>
</tr>
<tr>
<td>Design an article</td>
<td>Write song/video/act it out</td>
</tr>
<tr>
<td>Worksheets, tests, quizzes(yawn)</td>
<td>Blog or Wiki</td>
</tr>
<tr>
<td>Speech</td>
<td>Podcast</td>
</tr>
<tr>
<td>Essay/Book report</td>
<td>Rubrics with varied levels</td>
</tr>
<tr>
<td>Build a model</td>
<td>Exit card</td>
</tr>
<tr>
<td>Teach another student</td>
<td>Contracts and timelines</td>
</tr>
<tr>
<td>Debate</td>
<td>Interest based investigations</td>
</tr>
<tr>
<td>Demonstration</td>
<td>Movie or book trailer</td>
</tr>
<tr>
<td></td>
<td>Incorporating learning styles into choices</td>
</tr>
</tbody>
</table>
**Technology Resources for Product**

- [www.readwritethink.org](http://www.readwritethink.org) k-12 student interactives
- Differentiationdaily.com
- Pinterest
- Youtube playlists
- Screencastify
- Zoom
- Thinglink
- Piktochart

DIFFERENTIATION pro’s and con’s

- **Pros**
  - It is just more fun!!!
  - Research shows it works for gifted as well as students with more severe disabilities
  - Allows students to take responsibility for their own learning
  - Students are more engaged resulting in fewer discipline issues

- **Cons**
  - Requires more time put into planning and preparation
  - Limited professional development
“There is no one right way to create an effectively differentiated classroom; teachers craft responsive learning places in ways that are a good match for their teaching styles, as well as for their learners needs.”

~Carol Tomlinson
Proactive = Antecedent Modification

- Differentiation can be part of the IEP.
  - Instructional accommodations
    - Content, Process, Product, and Environment
  - Antecedent modification
    - Environmental
    - Social Supports
    - Task Oriented
    - Teacher Behavior
ENVIRONMENTAL MODIFICATIONS

- Lighting - dim/bright, overhead/lamps, natural, filters
- Sounds - door open/shut, background music, white noise, headphones
- Alignment - chair height, slant boards
- Zoning - seating, specific areas with specific purpose (desks/board, floor space, table, computer area, project area), location of staff
- Provide tools - visual cues for rules/steps/boundaries, timers visual/auditory, fidgets, soothing space
SOCIAL MODIFICATIONS

What proactive strategies can you use to help students be socially appropriate in class, with peers, and adults?

- Circle time/morning meeting or check in
- Explicit social skills instruction, Role play
- Visual cues/reminders
- Behavior specific praise
- Behavioral momentum
- Pair with a role model
- Self-monitoring check list and self-evaluation
- Set up volunteer/positive relationship opportunities
- Practice specific skills and then test run
**Task Modifications**

- High interest or preferred materials
- Incorporate choices
- Writing modifications
- Manipulatives, calculator
- Break task down into portions
- Shorten length or reduce complexity of task
- Schedule work/break times
- Extended time, multiple attempts
- Provide a completion schedule or map for difficult tasks
- Alternate task or lowered/advanced level
- Always be willing to negotiate!! What is most important?
Teacher Behavior Modifications

- Proximity
- Verbal cues for upcoming activities, reminders, and praise
- Incentive plans/individual behavior contracts
- Allow students time as soon as frustration is detected
- Be knowledgeable in coping strategies, offer and guide students in using them
- All adults in room engaged
- Reduce down time
- Incorporate sensory activities for all
“Teachers discover that they need to develop and maintain personal relationships with the students they teach -- because for most students, meaningful interaction with a teacher is a precursor to academic learning.”

~Huberman
Differentiation and Scaffolding

Differentiation in the IEP
- Proactive/Antecedent mods
- Smooth Transitions

Web Resources
- Web and App Resource List
- Product Menu
- Pinterest