Four Non-Negotiables of Defensible Differentiation

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What is Differentiation?
(Making Sure We’re on the Same Page...)

SHHHH/SHARE...

1. Pick a column
2. Write or think silently
3. Be ready to share when time is called

| Write a definition of differentiation you feel clarifies its key intent, elements, and principles. | Explain to a new teacher what differentiation is in terms of what a teacher would be doing in the classroom—and why. Your definition should create an image of differentiation in action in a real setting. | Develop a metaphor, analogy, or visual symbol that you think represents and clarifies what’s important to understand about differentiation. |
Sternberg’s Three Intelligences

- Analytical
- Practical
- Creative

Differentiation

Is a teacher’s response to learner’s needs
Guided by mindset and general principles of differentiation

- Respectful tasks
- Quality Curriculum
- Plausible grouping
- Continual assessment
- Big Community

Teachers can differentiate through

- Content
- Process
- Product
- Affect/Environment

According to students’

- Readiness
- Interest
- Learning Profile

Through a variety of instructional strategies such as:

- RAFTS...
- Graphic Organizers...
- Scaffolding Reading...
- Cubing...
- Think-Tac-Toe...
- Learning Contracts...
- Tiering...
- Learning/Interest Centers...
- Independent Studies...
- Intelligence Preferences...
- Orbitals...
- Complex Instruction...
- 4MAT...
- Web Quests & Web Inquiry...

Differentiation is a sequence of common sense decisions made by teachers with a student-first orientation

Adam Hoppe, 2010
It’s making sure each student learns what he or she should learn by establishing clear goals, assessing persistently to see where each student is relative to the goals, and adjusting instruction based on assessment information—so that each student can learn as much as possible as efficiently as possible.

**Differentiation is NOT a set of strategies...**

*It’s a way of thinking about teaching & learning*

Strategies are tools to accomplish the goals of DI. They no more differentiation than a hammer and a saw are the house they help to build.

**Think about it.........**

• How do these definitions mesh with yours?

• What else would you add to the definitions?
Quality DI

Begins with a growth mindset, moves to student-teacher connections, & evolves to community.

Paving the Way

MINDSET ➔ CONNECTIONS ➔ COMMUNITY

to Learning

The Predictive Power of Mindset

Fixed
- Success comes from being smart
- Genetics, environment determine what we can do
- Some kids are smart—some aren’t
- Teachers can’t override students’ profiles

Growth
- Success comes from effort
- With hard work, most students can do most things
- Teachers can override students’ profiles
- A key role of the teacher is to set high goals, provide high support, ensure student focus—to find the thing that makes school work for a student
Note key attributes of Captain Sullenberger's thinking during the time he was making decisions about the problem he encountered and was acting on those decisions.

What do you find to be the most compelling thing he has to say? Why does it strike you as the most important?

How would you characterize him as a pilot based on this interview segment?

What does any of this have to do with teaching?

Host: We entered all of the flight data into a computer (speed, location, landing distance, etc.)

Sir, the computer said you couldn't land the plane successfully.

Captain Sullenberger: Then I'm glad a computer wasn't flying the plane.
TALK ABOUT IT...
How does teacher Mindset impact who, where, what, & how we teach?

What are the implications of mindset for differentiation??

Question:
In what ways do your faculty and school support development of a fluid teacher and student mindset?

In what way do your faculty & school encourage development of a fixed teacher and student mindset?
Teacher-Student Connections Bridge the Risk of Learning

Connecting with Kids

- Talk at the door
- Early interest assessments
- Small group instruction
- Dialogue journals
- Student conferences
- Open room days
- Ask for student input
- Invite examples, analogies, experiences
- Seek student input on class
- Use Socratic or student-led discussions
- Share your own stories

Listen
Seek varied perspectives
Share own interests, questions, plans
Start class with kid talk
Go to student events
Watch before & after school, at lunch
Keep student data cards
Take notes during class
Attend extracurricular activities
Build curriculum on student culture & interests
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, 1983 in The New Meaning of Educational Change, 3rd Edition by Michael Fullan, 2001, New York: The Teachers College Press, p. 33)

• I’d like to be able to say that our job is just to get the kids to learn new things, think better, and be “smarter.”
• But in the bigger picture, learning is about what we at The Met call “the three R’s”—relationships, relevance, and rigor.
• You cannot have a relationship with or make things relevant for or expect rigor from a kid you don’t know.

Teacher-Student Connections allow us to access what matters about learners.

Paving the Way

MINDSET ➔ CONNECTIONS ➔ COMMUNITY

to Learning
How Community Evolves over Time

- Listening
- Celebrating
- Problem Solving
- Responding
- Working

Building Community

- Today became great when you arrived

Building Community
Building Community

• Establishes the framework for a responsive classroom
  Each student’s need for a “next step”
  Responsibility for own growth
  “We’ve got your back” mentality
  Competition against self (vs. others)
  Fair as each student getting what he/she needs to succeed
  Working like colleagues
• Begins with teacher mindset
• Extends to student belief in one another
• Supports the belief that we win or lose together
• Ensures security/safety necessary for academic growth
• Enables students to work as a team
• Provides the teacher with “teammates” too

How We Came to Be…Us

Because my teacher treats me with respect,
I feel a sense of dignity in this place.
Because my teacher treats every one of us with respect,
We are respectful of one another.
Because my teacher sees our possibilities,
I am beginning to see them too.
Because my teacher says sweat makes winners,
We’re learning to sweat.
Because my teacher works hard for me,
I want to work hard for her.
Because my teacher won’t settle for less than our best,
We aim high more often.
Because my teacher says we are responsible for one another,
We help one another succeed.
Because my teacher helps us see ourselves through her eyes,
We see hope in ourselves.
Because my teacher is a great coach,
We are a great team.

Movie Time

In this High School Class:

What is the teacher’s mindset? Why do you say so?

To what degree do you think this teacher connects with her students? On what evidence do you base your conclusion?

How do you think mindset and decisions about connections interact?

What role do you believe connecting with students plays in this classroom? What’s your evidence for your conclusion?

What do you think would change in this class if your answer were the opposite of what you said? Why do you think so?
There is no textbook or pacing guide or set of instructional strategies that can substitute for a teacher’s belief in and connection with students… But high quality curriculum can play a key role in fluid mindset, connections, and community!

2

Quality DI

Is rooted in meaningful curriculum.
THINK ABOUT IT….

What do/should teachers/curriculum developers do to make sure curriculum is sound?
That it feeds young brains appropriately?

Planet MI Task

<table>
<thead>
<tr>
<th>V/L</th>
<th>L/M</th>
<th>M/R</th>
<th>B/K</th>
</tr>
</thead>
<tbody>
<tr>
<td>Write a story about your planet</td>
<td>Make a chart that compares your planet to Earth</td>
<td>Make up a song about your planet</td>
<td>Make up or adapt a game about your planet (Saturn ring-toss, etc.)</td>
</tr>
</tbody>
</table>

Beware of Twinky DI

QUALITY CURRICULUM: THE SHORT VERSION

Engagement + Understanding = Success
Quality Differentiation

“Teaches Up” and ensures “Respectful Tasks” (based on essential understandings, equally engaging, requiring high level thought for all students).

Our goal should always be to create the richest, highest quality curriculum we know how to create...

Then, differentiate to enable the largest possible number of students to succeed with it.

Differentiation should always be about lifting up—never about watering down!!

TEACHING UP!!

“Teaching up” is strongly connected to both teacher & student “mindset…”

How does that work?
Novel Think-Tac-Toe  
**basic version**

**Directions:** Select and complete one activity from each horizontal row to help you and others think about your novel. Remember to make your work thoughtful, original, accurate, and detailed.

- **Character**
  - Create a pair of collages that compares you and a character from the novel. Share the collages with your classmates.
  - Write a bio-poem about yourself and another about a main character in the book. Discuss how both poems are alike and different.

- **Setting**
  - Make a model or a map of a key place in your life and an important one in the novel. Discuss how both places are alike and different.
  - Make timelines. The first should illustrate and describe at least 5 shifts in settings in the book. The second should explain and illustrate how the mood changes with the change in setting.

- **Theme**
  - Solve a key character from the book to find out what lessons he/she learned from events in the novel. Display these for material. Be sure the interview is thorough.
  - Find several songs you think reflect an important message from the book. Prepare an audio collage. Write an exhibit card that helps your listener understand how you think these songs express the book's meaning.

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Novel Think Tac-Toe  
**advanced version**

**Directions:** Select and complete one activity from each horizontal row to help you and others think about your novel. Remember to make your work thoughtful, original, insightful, and elegant in expression.

- **Character**
  - Write a poem about yourself and another about a main character in the novel. Discuss how both poems are alike and different. Be sure to include at least 6 important traits in each poem.
  - Write a character analysis about a main character in the novel. Discuss how the character is important and why he/she is important to the story.

- **Setting**
  - Research a town/place you feel is equivalent to the one in which the novel is set. Use maps, sketches, population and other demographic data to help you make comparisons and contrasts.
  - Make a model or a map of a key place in your life and an important one in the novel. Find a way to help viewers understand both what the places are like and why they are important in your life and the characters'.

- **Theme**
  - Find out about famous people in history or current events whose experiences and lives reflect the novel's theme. Show what you've learned.
  - Create a multimedia presentation that fully explores a key theme from the novel. Use at least 3 media (for example, painting, music, poetry, photography, drama, sculpture, calligraphy, etc.) in your exploration.

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To Ensure Engagement
However we conceive it, every lesson plan should be, at its heart, a motivational plan. Young learners are motivated and engaged by a variety of conditions. Among those are:

- novelty
- cultural significance
- personal relevance or passion
- emotional connection
- product focus
- choice
- the potential to make a contribution or link with something greater than self

Where is the Meaning Meter in your school or classroom? What's your evidence? Why does it matter?
Teachers Must Distinguish Between:

Enduring Understandings

Important to Know and Do

Worth Being Familiar With

Planning a Focused Curriculum Means—At the Very Least—Clarity About What Students Should ...

**KNOW**
- Facts
- Vocabulary
- Definitions

**UNDERSTAND**
- Principles/generalizations
- Big ideas of the discipline

**BE ABLE TO DO**
- Processes
- Skills

- Facts, names, dates, places, information
  - There are 50 states in the US
  - Thomas Jefferson
  - 1492
  - The Continental Divide
  - The multiplication tables
  - Procedural information (how to...)
**UNDERSTAND**

Essential truths that give meaning to the topic
Stated as a full sentence
Begin with, “I want students to understand THAT…”
(not HOW… or WHY… or WHAT)

- Multiplication is another way to do addition.
- People migrate to meet basic needs.
- All cultures contain the same elements.
- Entropy and enthalpy are competing forces in the natural world.
- Voice reflects the author.

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**BE ABLE TO DO**

Skills (basic skills, skills of the discipline, skills of independence, social skills, skills of production)
Verbs or phrases (not the whole activity)

- Analyze
- Solve a problem to find perimeter
- Write a well supported argument
- Evaluate work according to specific criteria
- Contribute to the success of a group or team
- Use graphics to represent data appropriately

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**Curriculum As A Mobile In Balance**

- Abstract
- Concepts
- Principles
- Essential Questions
- Lens on Life
- Meaning
- Skills
- Tools
- Concrete
- Topics
- Facts
- Incidents
- Dates
- Vocab.
- Exemplars
A Powerful Activity

is one in which

Students make or do something
Using essential knowledge and essential skills
In order to arrive at or explore an essential understanding.

The knowledge and skills are in service of understanding, NOT ends in themselves!

Creating common learning goals

We have to know where we want all students to end up before we can think intelligently about how we want them to get there!

Differentiation is seldom about different outcomes for different kids. It’s about different ways to get kids where they need to go.

In a Differentiated Classroom...

The teacher may vary the KNOWS & DOs with caution and based on evidence that a student needs to learn backwards as well as forward to catch up—or that a student needs to move ahead in order to keep learning.

The UNDERSTANDS are the constant fulcrum on which effective differentiation pivots for all students.
In Other Words: KUDs Matter Because

They create clear learning goals
Allow us to align goals, assessments, teaching, and learning tasks
They allow us to incorporate standards AND make meaning for students
They give us a basis for differentiation.
Who needs which K's & D's
How do we ensure that every student gets meaningful access to the U's
They tell us what strugglers should invest in
They give us a platform for extending for advanced students

The Voices in my Head...

Yes, but…
This could be good because…
I’d need to know more about…

New World Explorers

KNOW
- Names of New World Explorers
- Key events of contribution

UNDERSTAND
- Exploration involves
  - risk
  - costs and benefits
  - success and failure

Do
- Use resource materials to illustrate & support ideas
New World Explorers

Using a teacher-provided list of resources and list of product options, show how 2 key explorers took chances, experienced success and failure, and brought about both positive and negative change. Provide proof/evidence.

Using reliable and defensible research, develop a way to show how New World Explorers were paradoxes. Include and go beyond the unit principles.

Movie Time....

In Chad’s Classrooms, Look For:

- Evidence of:
  - planning for student understanding
  - planning for student engagement
  - respectful tasks
  - teaching up
- The role of teacher mindset in curriculum development
- Also, note your own questions

3 Quality DI

Is guided by on-going assessment (for planning and feedback—not grades).
Absolute clarity about the learning destination
Persistently knowing where students are in relation to the destination all along the way
Adjusting teaching to make sure each student arrives at the destination (and, when possible, moves beyond it)

WHAT CAN BE ASSESSED?

<table>
<thead>
<tr>
<th>READINESS</th>
<th>INTEREST</th>
<th>LEARNING PROFILE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skills</td>
<td>Content Knowledge</td>
<td>• Areas of Strength and Weakness</td>
</tr>
<tr>
<td>Concepts/Principles</td>
<td></td>
<td>• Learning Preferences</td>
</tr>
<tr>
<td>Knowledge</td>
<td></td>
<td>• Self Awareness</td>
</tr>
</tbody>
</table>

Graphing for Greatness
Inventory
KWL
Checklist
Observation
Self-evaluation
Questioning
Exit Cards
Portfolio Check
Quiz
Journal Entry
Self-evaluation
Windshield Check
Unit Test
Performance Task
Product/Exhibit
Demonstration
Portfolio Review

Remember to check for prerequisite skills
At My Best...

Thinking about your strengths and best features, please answer the following:

1. A positive thing people say about me is:

2. When I'm feeling great at school, it's probably because:

3. A dream I have for myself is:

4. A thing I like spending time on is:

5. Something that captures my imagination is:

6. The best thing about my family is:

7. My strength as a learner is:

8. What I can contribute to the classroom is:

9. A thing I wish people knew about me is:

10. I'm proud of:

Strength-Based Assessments

**Typical Assessment Info.**

- Average IQ
- Average reading achievement
- Above average math computation
- Missed 10 days of school this quarter
- 2 in-school suspensions
- this quarter

**Strength-Based Assessment**

- Likes mechanical things
- Reads magazines about motorcycles
- Wants to learn more about computers
- Seen as a big brother to neighborhood kids
- Wants to travel some day
- Likes to talk about ideas

MATH INVENTORY

NAME

DATE

1. How do you feel about math?
2. Do you think you are good in math? Why?
3. What are your best areas in math?
4. What are your weakest areas in math?
5. Do you think it is important to be good in math? Why?
6. What do you think are characteristics of students who are good in math? Why?
7. What do you do when you come to a math problem you can't solve?
8. How do you use math outside of class?
9. What do you usually do after school when you get home?
10. Do you most like to do when you have free time? Why?
11. What else should I know about you to teach you effectively this year?
### Interest Survey

Directions: I'll be a better teacher for you if I understand some of your interests. In each box below, place an interest of yours. Write briefly about how you are involved with that interest. Note also any ways you can think of that the interest might connect with science.

<table>
<thead>
<tr>
<th>Interest</th>
<th>Experience w/ it?</th>
<th>Connection w/ Science?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Example of a brief secondary interest pre-assessment.**

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### Some Roles of Assessment in DI

**HELPING US KNOW WHERE KIDS ARE (& AREN'T) AS A UNIT BEGINS...**

(Pre-assessment of readiness)

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### Directions:

Complete the chart to show what you know about equations. Write as much as you can.

**Definition**

**Information**

**Examples**

**Non-Examples**

Useful for pre-assessment & formative assessment of readiness in many grades & subjects
Examples of Visual Representations: Knowledge Rating Chart.

Directions: Rate the following statistics terms as follows:
1. I’ve never heard of this before
2. I’ve heard of this, but I don’t know how it applies to mathematics.
3. I understand the meaning of this term and can apply it to a mathematics problem.

- mean
- median
- mode
- weighted average
- normal distribution
- bimodal distribution
- skewed distribution
- flat distribution
- line of best fit
- correlation
- range

An example of pre-assessment of readiness

Knowledge Rating Chart
1. I’ve never heard of this before
2. I’ve heard of this, but am not sure how it works
3. I know about this and how to use it
   - Direct object
   - Direct object pronoun
   - Indirect object
   - Indirect object pronoun
   - Object of a preposition
   - Adjective
   - Interrogative adjective

Another Veteran Teacher's Epiphany about Pre-assessment

High School Unit on
The Agricultural Revolution
- Major Emphasis to Lay
  Groundwork for Rest of Year
- Reading, Lecture, Videos,
  Journal Entries, Homework,
  etc.
- Three Weeks into the Unit…
  “So… what’s agriculture?”
So Far...

<table>
<thead>
<tr>
<th>Insights</th>
<th>Questions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Keep Thinking!</td>
</tr>
</tbody>
</table>

Some Roles of Assessment in DI

HELPING US KNOW HOW KIDS LEARN BEST... SO WE CAN TEACH IN THOSE WAYS

(Pre-assessment of learning profile)

A Learning Preference Survey

1. I learn best when I:
   - Watch someone show me how
   - Hear someone tell me how
   - Try to do it myself

2. When I read, I often:
   - See what I'm reading in my head
   - Read out loud or hear the words in my head
   - Fidget and move to get a sense of the contents

3. When asked to give directions, I:
   - See the places in my mind or draw them as I give directions
   - Have no trouble giving them verbally
   - Have to point or move my body to give them

4. If I'm unsure how to spell a word, I:
   - Write it in order to see if it looks right
   - Spell it aloud to see if it sounds right
   - Write it in order to determine if it feels right

5. When I write, I:
   - Worry about how neat my words look
   - Often say the words and sounds to myself
   - Push hard on my pen or pencil to feel the flow of the letters & words

6. If I had to remember a list of items, I'd remember them best if I:
   - Write them down
   - Said them over and over to myself
   - Moved around and used my fingers or body to name and practice the items
7. I prefer teachers who:
Use the board, overhead or powerpoints when they talk
Talk with a lot of expression
Use hands-on activities

8. When trying to concentrate, I have trouble when:
There's a lot of clutter or movement in the room
There's a lot of noise in the room
I have to sit still for a length of time

9. When solving a problem, I:
Write or draw diagrams to solve it
Talk myself through it
Use my body or objects to help me think

10. When given written directions on how to make or build something, I:
Read them silently and try to visualize how the parts will fit or look
Read them aloud so I try to put the parts together
Try to put the parts together and read the directions later

11. To keep occupied while I'm waiting, I:
Look around, stare, read
Talk or listen to others talking
Walk around, manipulate things with my hands, wiggle my feet

12. If I had to verbally describe something to someone else, I'd:
Be brief because I don't like to talk a lot
Go into great detail because I like to talk
Gesture and move around while I talk

13. If someone was verbally describing something to me, I'd:
Try to visualize what he/she was saying
Enjoy listening, but want to interrupt and talk myself
Get bored if the description was long and detailed

14. When trying to recall names, I remember:
Faces, but forget names
Names, but forget faces
The situation when I met the person, but may not remember the name or face

Adapted from an inventory developed by Jonelle A. Beatrice
<http://alaike.lcc.hawaii.edu/lrc/otest.html>

Note: All questions are in a VAK Format. Might want to scramble them before administering.

Try it on for Size

Take a few minutes to:
1) Talk about these examples of pre-assessment vs. ways in which you design and use pre-assessment in your classroom
2) Think about ways in which you might expand use of pre-assessment to benefit student success.
3) Your questions about the relationship between pre-assessment, curriculum, and differentiation.
An Informal Formative Assessment Strategy

- The teacher poses a thought question that probes the essence of what students should understand for the lesson/learning experience.
- Students write (sketch, rehearse) their answers silently for about two minutes,
- The teacher explains the “order of answering” so there is no lag time,
- Students read their answers in the designated order,
- The teacher keeps a running record (plus, check, minus—1,2,3,4) of the degree to which each student’s response shows understanding.

EXIT CARDS

On your exit card---

Explain the difference between simile and metaphor. Give some examples of each as part of your explanation.
Exit Cards: Science

Name:

• Draw and annotate an explanation of how genetic mutation occurs.
• Describe an example of genetic mutation we did not discuss in class or read about in the text. Support your example with scientific evidence/reasoning.

3-2-1 Card

Name:

• **3 things I learned** from the perspective lab...
• **2 questions** I still have about perspective drawing...
• **1 thing** way in which you think perspective drawing will improve your art....

EXIT CARDS - Learning Preferences

We used the following learning strategies in today’s lesson:

- 3 minute pause
- T-P-S
- Visualizing

What learning strategy or strategies seemed to work best for you? Why?
Some Roles of Assessment in DI

HELPING KIDS KNOW THEMSELVES BETTER AS LEARNERS SO THEY CAN OWN THEIR LEARNING ...

(Formative or On-going Assessment)

3-2-1 Reflection

After reading over my rough draft---
3 revisions I can make to improve my draft:
2 resources I can use to help improve my draft:
1 thing I really am proud of in my first draft:

Question Box

• After doing today’s exit card, what questions do you still have?
• “I still don’t get…”
• “I don’t understand why…”
• “I understood everything until…”
• y=mx+b ???
Take a few minutes to:
1) Think about these uses of formative assessment vs. the way you use it in your classroom.
2) Times, places, and ways you might expand or refine your use of formative assessment to benefit student achievement.
3) Questions you have about formative assessment, its relationship to curriculum, and/or its relationship to differentiation.

(Frommative Assessment)

A. You are a relatively wealthy white male in the month of the 2004 presidential election. Explain (orally or in writing) who will you vote for and why (if you are typical of that group)? Now, explain who you will vote for if you are typical representative of the following groups (and why):
   - a relatively wealthy Hispanic female
   - a poor Hispanic male, 26
   - a poor white female, 30
   - a middle class African American male, 50
   - a middle class, elderly, white male, 80
   - another category of your choice

B. You are in a town meeting the month of the 2004 presidential election. The group of six talking together comes from varied age groups, regions, ethnic groups, jobs and socioeconomic status. Each is typical of a category of voters. Create the group. In both written and graphic form, indicate who they will vote for, why, and how they are likely to feel about their choice 4 years later.

High School Government
“Differentiation is making sure that the right students get the right learning tasks at the right time. Once you have a sense of what each student holds as ‘given’ or ‘known’ and what he or she needs in order to learn, differentiation is no longer an option; it is an obvious response.”

Assessment as Learning: Using Classroom Assessment to Maximize Student Learning
Lorna M. Earl
Corwin Press, Inc. – 2003 – pp. 86-87

Assessment & Differentiation...

- It's about guiding students, not judging them.
- It's about informing instruction, not filling grade books.
- It's about before, during, & after—not just after.
- It's about teaching for success—not gotcha teaching.

What's Different?

Teaching in the Dark

is Questionable Business

Hilda Taba
4 Quality DI
Addresses student readiness, interest, and learning profile.

What’s the Point?

Readiness  Interest  Learning Profile
Growth  Motivation  Efficiency
Some Ways to Address Student Readiness

- Books/materials/resources at different readability levels
- Highlighting texts
- Materials in a student’s first language
- Content digests
- Small group instruction
- Additional segments of a subjects (e.g. math, reading)
- Peer teaching
- Varied homework assignments
- Pacing adjustments
- Mini-workshops
- Books on tape
- Models of quality at the student’s readiness level
- Experts of the day
- Skills-based learning centers
- Computer tutorials
- Learning contracts
- Tiering
- Contemporary Lecture

Electricity

<table>
<thead>
<tr>
<th>Description</th>
<th>Kinds of Electricity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electricity is one kind of energy</td>
<td>There are two kinds of electricity, static and current. Static electricity is on electric charge that does not move. Current electricity is the movement of electrons.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Electric Circuits</th>
<th>Producing Electricity</th>
</tr>
</thead>
<tbody>
<tr>
<td>There are two kinds of electric circuits</td>
<td>A generator is a machine that changes mechanical energy into electrical energy.</td>
</tr>
<tr>
<td>A series circuit is one in which current can follow only one path</td>
<td>A dry cell uses a chemical paste, carbon rod, and zinc to produce a flow of electrons.</td>
</tr>
<tr>
<td>A parallel circuit is one in which current can follow more than one path.</td>
<td>A wet cell uses acid and water, which reacts with metal plates, to produce a flow of electrons.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Using Electricity</th>
<th>Measuring Electricity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electricity is an important source of light and heat. Electrical energy can be changed to mechanical energy. Fuses and circuit breakers are safety devices designed to help use electricity safely.</td>
<td>The amount of electricity used is measured in kilowatt-hours.</td>
</tr>
</tbody>
</table>

Note: Basic format “Perceptions and Strategies,” by M. W. Olson and T. C. Gee, 1991. The Reading Teacher, 45(4), 298-307 Copyright 1991 by the International Reading Association Teaching Reading in Science by Barton and Jordan

BOOK REPORT/BOOK REVIEW VS BOOK TRAILER

- Words
  - To analyze or critique a book
  - Teacher is typically the audience
  - Uses paper/pencil or word processing
  - Seldom includes intermediate input from teacher
  - Generally work alone

- Visual images, printed text, soundtrack
  - To introduce or “sell” the book to a real audience
  - Or to develop a scene that wasn’t in the book but might have been
  - Begin with storyboards (need teacher approval to proceed)
  - Uses i-Movies, digital video cameras, or video cameras
  - Can work alone or with a team
### Sedimentary
You may see small particles of rock and other materials. The particles may look rounded. You may see layers in some rocks.

### Igneous
You may see large crystals in some of these rocks. Others will not have crystals, but you will see air holes. Some may look like glass. There are no layers.

### Metamorphic
These rocks may have crystals or layers. They are formed from other rocks that have been changed by heat and pressure.

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### Rock Log
Sort your samples. Draw each sample in the correct column. Write a description that tells color, texture and other characteristics about the rock.

The class does the same activity, but more guidance is given for those who may need it.

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### Highlighted Texts
About 15% of a chapter—e.g.
Introduction
Conclusion
Critical passages
Key graphics

Intended for English language learners
Also helpful for students:
with ADHD
with learning disabilities
who have difficulty making meaning
who are weak readers
1) Which of these ideas could you use in your classroom—or commend to colleagues to use in theirs—to benefit student success?

2) What questions do you struggle with when you look at these examples?

**Differentiation by Interest**

- Stereotypes
- Generalizations
- Leadership

1. People tend to stereotype people they do not understand.
2. Every group of people has leaders.

Explore the contradictions that existed in the Civil War period between stereotypes (N/S, Male/Female, Black/White, etc.) and leaders in every societal group.

As depicted in:
- Stories
- Art
- Music
- Journalism
- Oral Tradition

3. Work in groups of 3-5
   - Can use materials on your tables & add others.
   - Can use research matrix or notebooks.
   - Can farm out tasks or work as a whole group.
   - Must use the rubric provided by the teacher.

**Writing Bingo**

Try for one or more BINGO’s this month. Remember, you must have a real reason for the writing experience! If you mail or email your product, get me to read it first and initial your box! Be sure to use your writing goals and our class rubric to guide your work.

<table>
<thead>
<tr>
<th>Recipe</th>
<th>Thank you note</th>
<th>Letter to the editor</th>
<th>Directions to one place to another</th>
<th>Rules for a game</th>
</tr>
</thead>
<tbody>
<tr>
<td>Invitation</td>
<td>Email request for information</td>
<td>Letter to a pen pal, friend, or relative</td>
<td>Script or scene</td>
<td>Interview</td>
</tr>
<tr>
<td>Newspaper article</td>
<td>Short story</td>
<td>FREE Your choice</td>
<td>Grocery or shopping list</td>
<td>Schedule for your work</td>
</tr>
<tr>
<td>Advertisement</td>
<td>Cartoon strip</td>
<td>Poem</td>
<td>Instructions</td>
<td>Greeting card</td>
</tr>
<tr>
<td>Letter to your teacher</td>
<td>Proposal to improve something</td>
<td>Journal for a week</td>
<td>Design for a web page</td>
<td>Book Think Aloud</td>
</tr>
</tbody>
</table>

Carol Tomlinson 3/2010
DOUBLE ENTRY JOURNAL
(Basic)

As You Read, Note:
• Key phrases
• Important words
• Main ideas
• Puzzling passages
• Summaries
• Powerful passages
• Key parts
• Etc.

After you read, Explain:
• How to use ideas
• Why an idea is important
• Questions
• Meaning of key words, passages
• Predictions
• Reactions
• Comments on style
• Etc.

DOUBLE ENTRY JOURNAL
(Advanced)

As You Read
• Key passages
• Key vocabulary
• Organizing concepts
• Key principles
• Key patterns

As or After You Read
• Why ideas are important
• Author's development of elements
• How parts and whole relate
• Assumptions of author
• Key questions

Another Voice
• Teacher
• Author
• Expert in field
• Character
• Satirist
• Political cartoonist
• Etc.

Front-Loading Vocabulary

WHAT?
• Teach the few vocab words on which the topic pivots (6-8)
• Teach them before the unit begins (to students who need them)
• Keep them in plain sight throughout the unit
• Refer to them often during the unit and afterwards as relevant
• Teach root words and derivatives as possible

WHO?
• English language learners
• Students with learning disabilities
• Students who have trouble with words
• Students who benefit from direct instructional contact with the teacher
• Students with generally weak academic vocabulary
• Students who don't know the words on the pre-assessment
Biology – A Differentiated Lesson Using Sternberg’s Intelligences

Learning Goals:

Know - Names of cell parts, functions of cell parts
Understand - A cell is a system with interrelated parts
Do – Analyze the interrelationships of cell parts/functions. Present understandings in a clear, useful, interesting and fresh way.

After whole class study of a cell, students choose one of the following sense-making activities.

Analytical: Use a cause/effect chain or some other format you develop to show how each part of a cell affects other parts as well as the whole. Use labels, directional markers, and other symbols as appropriate to ensure that someone who is pretty clueless about how a cell works will be enlightened after they study your work.

Practical: Look around you in your world or the broader world for systems that could serve as analogies for the cell.

Select your best analogy (“best” most clearly matched, most explanatory or enlightening).

Devise a way to make the analogy clear and visible to an audience of peers, ensuring that they will develop clearer and richer insights about how a cell works by sharing in your work.

Be sure to emphasize both the individual functions of cell parts and the interrelationships among the parts.

Creative: Use unlikely stuff to depict the structure and function of the cell, with emphasis on interrelationships among each of the parts. You should select your materials carefully to reveal something important about the cell, its parts, and their interrelationships your ahas should trigger ours.

Tell a story that helps us understand a cell as a system with interdependent actors or characters, a plot to carry out, a setting, and even a potential conflict. Use your own imagination and narrative preferences to help us gain insights into this remarkable system. Students share their work in a 3 format – first triads of students who completed the same option, then triads with each of the 3 categories represented.

This is then followed by a teacher-led, whole class discussion of cells as systems. Then a “Teacher Challenge” in which the teacher asks students to make analogies or other sorts of comparisons between cells, cell parts, or interrelationships and objects, photos, or examples produced by the teacher.
Nancy Brittle’s English students & their “parallel” odysseys

A Really Simple Option to Support Student Success

**Invite students to draw**

<table>
<thead>
<tr>
<th>How it looks</th>
<th>What happened</th>
</tr>
</thead>
<tbody>
<tr>
<td>What it means</td>
<td>Who key players are</td>
</tr>
<tr>
<td>How it works</td>
<td>What it reminds them of</td>
</tr>
<tr>
<td></td>
<td>Various perspectives on it</td>
</tr>
</tbody>
</table>

as an entry point to writing
Take a few minutes to:

1) Select one of these strategies to include in lesson plans. How would you use it? Why? Who might benefit?
2) Summarize your thinking with a colleague.
3) Talk together about unanswered questions related to the strategy of about differentiation in general.

Try it on for Size
Owning Student Success

Creating a Positive Environment

Studying Students

Connecting with Students

- In one subject—
  - In the subject in which your students seem to vary most
  - In the subject with which you are most comfortable
- In one class—
  - In the class that seems to need it most
  - In the class with which you are most comfortable
- With one element—
  - products, journal prompts, assistance with reading, etc.