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

Adam Hoppe, 2010

The Common Sense of Differentiation

Ensuring an environment that actively supports students in the work of learning (mindset, connections, community),

Absolute clarity about a powerful learning destination—(KUDs, engagement, understanding),

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),

Effective leadership & management of flexible classroom routines.
Big Idea of Differentiation:
Responding to Readiness, Interest, Learning Profile

Instructional strategies are tools for attending to the learning needs of students.

When a teacher is clear about learning targets and has good assessment information to indicate students’ varied positions relative to those targets, THEN it’s time to decide which instructional tool is the best fit for the students’ needs, the particular learning goals, and the classroom context.

What’s the Point?
Teachers at Work:

Responding to Student Readiness Needs

Readiness

IS:
• A student’s proximity to specified learning goals.
• A student’s position relative to the task at hand.
• Fluid.

IS NOT:
• A synonym for ability or IQ or potential
• Fixed

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
Small group instruction can be a powerful way to differentiate!

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>

Electric Circuits

There are two kinds of electric circuits. A series circuit is one in which current can follow only one path. A parallel circuit is one in which current can follow more than one path.

Producing Electricity

A generator is a machine that changes mechanical energy into electrical energy. A dry cell uses a chemical paste, carbon rod, and zinc to produce a flow of electrons. A wet cell uses acid and water, which react with metal plates, to produce a flow of electrons.

Using Electricity

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.

Measuring Electricity

The amount of electricity used is measured in kilowatt-hours.

The precipitous incline of the tortuous cliff rendered dubious their unhampered descent.

The prodigious prestidigitator purloined the prestige of the pulchritudinous psychic by prognosticating through a presentiment the popular proclivities for the preeminent political pursuant.

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**Learning Center Rotations**

- Everybody Tasks
- Teacher Choice Tasks
- Student Choice Tasks

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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. As students work on an assignment, systematically go around the room and spot-check their work—looking for patterns in misunderstanding or gaps in knowledge or skill.
2. Make a quick note of issues you see and students who are having those issues.
3. If you see a problem that’s recurring as many as four or five times, call for a mini-workshop.
4. Ask students to stop working and give you their attention.
5. Tell them that as you’ve been observing their work, you see one problem that many students are having—and describe the problem/issue.
6. Tell students they’ll be able to succeed with their work more readily if you can help them with the problem.
7. Ask them to come to a place in the room that you designate and to sit with you on the floor for a minute to clear up the problem.
8. Feel free to issue invitations to some students if needed.
9. Hold the discussion—generally for about 3 minutes.
10. Remind students going and coming to shift their positions so that others are not interrupted in their work.

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**Mini Workshop**

**SHADES OF MEANING**

- Large
- Tepid

Linda Eiler

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Reading Homework Coupon
Name: ____________________________  Date: ______

- Ask your child to read with expression as if he or she were reading to entertain someone.
- Ask your child to give you several reasons why he or she likes (or dislikes) the book.
- Ask for evidence from the book.

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Reading Homework Coupon
Name: ____________________________  Date: ______

- Ask your child to read with a different voice for each character.
- After the reading, ask how your child decided on how his/her voice could help you know the various characters better.
- Ask your child to tell you which character would be most fun to spend time with.  Ask for reasons for his/her choice.
A Simple & Important Example

Varied Homework

Sure you can check homework when kids do varied tasks!!

Homework Checkers

Background:
This is a process for checking multiple homework assignments simultaneously in a classroom so that the teacher feels free to differentiate homework as necessary to address particular student learning needs.

Steps:
1. The teacher checks to make sure each student has completed assigned homework.
2. Students who have not completed the assignment work in a designated area of the room to complete the assignment (teacher floats to provide guidance/feedback)
3. Students who completed the HW work in groups of 4 to check all 4 sets for agreement/disagreement
4. All students mark each answer for agreement/disagreement as well as explanations of why an answer is wrong and how to make it right
5. Students sign indicating agreement, staple set of 4 together, turn in
6. Teacher spot checks, “grades” one per set

Talk about it...

Which of these strategies could you use to help students of varied readiness levels succeed in your class or school?

What kinds of learners would benefit from the strategies?

What questions do you have about using the strategy?
Teachers at Work:

Responding to Student Interests

Interest

Personal Interests/Passions (Strengths)

Culturally/Experientially Relevant

Generically Interesting
  Teacher Interests/Passions
  Opens the way to emerging interests

Word Jars

Spending A Million Dollars on My Dream: Tapping Interest in Math

<table>
<thead>
<tr>
<th>Category</th>
<th>Total</th>
<th>Fraction</th>
<th>Decimal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Land (40 acres)</td>
<td>$240,000</td>
<td>0.24000</td>
<td>24%</td>
</tr>
<tr>
<td>Building Materials</td>
<td>$450,000</td>
<td>0.45000</td>
<td>45%</td>
</tr>
<tr>
<td>8 Horses</td>
<td>$40,000</td>
<td>0.04000</td>
<td>4%</td>
</tr>
<tr>
<td>Farm Equipment</td>
<td>$100,000</td>
<td>0.10000</td>
<td>10%</td>
</tr>
<tr>
<td>Food (initial setup)</td>
<td>$20,000</td>
<td>0.02000</td>
<td>2%</td>
</tr>
<tr>
<td>Horse Supplie</td>
<td>$50,000</td>
<td>0.05000</td>
<td>5%</td>
</tr>
<tr>
<td>Farrier, Vet</td>
<td>$16,000</td>
<td>0.01600</td>
<td>1.6%</td>
</tr>
<tr>
<td>2 Farm Hands</td>
<td>$30,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Utilities</td>
<td>$10,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Insurance</td>
<td>$4,000</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

I found out a million dollars is a lot of money. I was able to buy 8 horses instead of 4. This project taught me a lot about horse farms and about math.


Student Interest Impacts Algebra Performance

Using personalized math problems not only made it easier for students to understand what was being asked, but also helped boost the confidence of students who may have been intimidated by the subject.

A researcher at SMU surveyed 145 9th graders about their interests in areas such as sports, music, and movies. Then she randomly assigned them to take the linear-equation unit either receiving standard word problems or one of four variations tailored to their interests.

Students who received personalized word problems solved them faster, more accurately, and with more confidence than students who received the standard questions, particularly when it came to translating the story scenarios into symbolic equations. Strongest gains were found for students who were struggling most before the personalization.


Interest-Based Differentiation Results in Math Achievement Gains

Original Problem

One method for estimating the cost of new home construction is based on the proposed square footage of the home. Locally, the average cost per square foot is estimated to be $46.50.

Sports
You are working at the ticket office for a college football team. Each ticket to the first home football game costs $46.50.

Music
You are helping to organize a concert where some local R&B artists will be performing. Each ticket to the concert costs $46.50.

Art
You have been working for the school yearbook, taking pictures and designing pages, and now it’s time for the school to sell the yearbooks for $46.50 each.

Games
You work for a Best Buy store that is selling the newest Rock Band game for $46.50.

SOURCE: Candace A. Walkington, Southern Methodist University
• The teacher presents one, two, or three options for format and/or mode of expressing learning.
• Students can propose alternate avenues for teacher consideration/approval.
• Student-proposed options must demonstrate competence with the same learning goals delineated in the original task assignment.

I WANT TO KNOW

My Question or Topic is: _________________________________________

To find out about it, I will:

Name: _____________________________

I will finish by: ________________________

How I will share what I learned is:

____________________________
____________________________
____________________________

I will

I will

I will

I will

I will

Using a Strength to Support a Weakness
One Example

100% Me poems
I'm 9% math
10% soccer
4% science
2% clean locker
I'm 21% wilderness
6% blue
I'm 6% braces
And 2% shoe
I'm 33% smiles 3% brown hair
4% pineapple
I'm very rare!

Kelsey—Grade 6

In Practical Poetry: A Non-Standard Approach to Meeting Content-Area Standards
By Sara Habrook (2005), Portsmouth, NH: Heinemann, p. 79
Nancy Brittle’s English students & their “parallel” odysseys

Talk about it...

Which of these strategies could be helpful to address the range of student interests in your class or school?

What kinds of learners would benefit from the strategies?

What other strategies do you already use to address student interests?

What questions do you have about using the strategies?

Teachers at Work:

Responding to Student Learning Profile
Learning Profile

**IS:**
- Related to how we take in & process information
- An umbrella term learning style
  - intelligence preference
  - culture
  - gender
- Fluid

**ISN’T:**
- Fixed
- “Singular”
- A synonym for learning style

Be wary of the reliability & validity of survey instruments that claim to identify learning styles.

Know that the same person will learn differently in different contexts.

Concentrate on:
1. Options/choices for processing & demonstrating essential content,
2. Helping students know themselves as learners so they make wise decisions about how to approach learning tasks—as well as when & how to approach their work.

Don’t Pigeon Hole Kids

Be wary of the reliability & validity of survey instruments that claim to identify learning styles.

Know that the same person will learn differently in different contexts.

Concentrate on:
1. Options/choices for processing & demonstrating essential content,
2. Helping students know themselves as learners so they make wise decisions about how to approach learning tasks—as well as when & how to approach their work.

Synthesis Groups Task Card

(Groups of 5 comprised of students with different expressive strengths.)

Please work with your synthesis group during today’s class to:

1) Review and agree on what you believe is the key understanding or principle that best reveals the meaning of (makes sense of, is the punch line for) the unit on the circulatory system.

2) Find at least four ways/modes to express that key understanding or principle in relation to the contents of the unit.

3) Be sure each mode of expression:
   - makes clear what the key understanding or principle is,
   - illustrates how to make sense of what we have been studying,
   - accurately shows how key knowledge and skills come together to form an understanding.

4) Be ready to present your own work in two minutes or under.

5) Be sure everyone in your group can interpret everyone else’s work effectively.
BOOK REPORT/BOOK REVIEW vs BOOK TRAILER

Words
To analyze or critique a book
Teacher is typically the audience
Uses pen/paper 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

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 Fortune Lines
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Novels, plays, epic poems, music, history & other subjects all present a story that unfolds as a sequence of scenes or events. Fortune lines probe learners' understanding of the story by requiring them to graph a pattern of events. For example, the story of Little Red Riding Hood can be separated into ten scenes:

- Little Red Riding Hood sets off from home
- Little Red Riding Hood enters woods
- Little Red Riding Hood meets wolf
- Little Red Riding Hood escapes from wolf, continues through wood
- Little Red Riding Hood comes to grandma's cottage
- "What big eyes you have!"
- "What big ears you have!"
- "What big teeth you have!" Wolf unmasks, pursues
- Hunter enters, kills wolf
- Grandma found unhurt in cupboard

---

One dimension that changes through the story is Little Red Riding Hood's peace of mind, or happiness. A graph showing her happiness might look like this:
Learning Profile Science Activity

Meteorologist:
You are a meteorologist working for Channel 29 News. The show will “air” in 10 minutes with the weekend’s forecast, but all the equipment is failing. Look out your “windows” and use the clouds to predict the weather forecast for the local community. You can either write your script for the news show explaining your prediction and your reasons for the prediction, create a poster or prop for the news show that shows the audience what you think the weather will do and why, or role-play the part of the meteorologist and verbally present your forecast predictions to the audience.

The Human Digestive System (The KUDOs) Students will:

4th Grade Science

(1) Understand the big idea. In this case, that (a) the human digestive system is an example of a system a collection of two or more parts that act together to affect the whole thing, and (b) that each part is related to the others in some way.

(2) Know the names and functions (jobs) of the major digestive system organs listed below, and include them in a song, story, skit, or diagram:

- **Mouth**, teeth, saliva
- **Epiglottis** — The flap of cartilage that prevents food from entering the trachea and lungs.
- **Esophagus** (Optional: Peristalsis, the contraction of muscles in and around the esophagus.)
- **Stomach** — Muscles mix and mash the food. Hydrochloric acid breaks food up.
- **Small Intestine** — Place where most of the digestion and chemical change of food to simpler forms occurs.
- **Villi** — Finger-like projections that contain capillaries — the sites in the small intestine where the broken-down (digested) food nutrients enter the blood stream.
- **Large Intestine** — Where water is absorbed back into the body and the remaining indigestible food passes to the outside.

(2) Demonstrate their understanding using the correct structure and function vocabulary to show how a piece of food moves through and provides fuel for the human body — from the time it enters the mouth to the time waste leaves the body.

- Howard Miller

Kate’s diagram explaining how a cookie is digested
Emma writing a story about the digestion of broccoli

Talk about it...
Which of these strategies could be helpful to address the varied ways students in your class or school approach learning?
What kinds of learners would benefit from the strategies?
What other strategies do you already use to address students’ learning profiles?
What questions do you have about using the strategies?

Teachers at Work:
(Doing More than One Thing at a Time)
Responding to Student Readiness, Interests, and Learning Profile
Personal Agenda*
Agenda for ______
Starting date: ______

<table>
<thead>
<tr>
<th>Task</th>
<th>Special Instructions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Remember to complete your daily planning log
*Remember I’ll call you for conferences and instructions sometimes

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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.

<table>
<thead>
<tr>
<th>Theme</th>
<th>Character</th>
<th>Setting</th>
<th>Task</th>
<th>Special Instructions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Write a haiku about yourself and another about a main character in the book so your readers see how you and the character are alike and different. Be sure to include the most important traits in each poem.</td>
<td>A character in the book is being written up in the next 20 years after the novel ends. Write the poem. Where does the character live? Why? How is the same for yourself? 20 years from now? Make sure both poems are insightful, thoughtful, and different.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Research a town/place you live in, and in important one in the novel. Make a model or a map of a key place in your life, and in important one in the novel. Find a way to help viewers understand what the places are like and why they are important in your life and the character’s life.</td>
<td>Make a model of a key place in the town/place in which people first met and where events happen shape those people and events. Create a multi media presentation that fully explores a key theme from the book.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Find a text about famous people in history or current events whose life and character are alike and why they are important in your life and the character’s life.</td>
<td>Find several songs you think reflect an important message from the book. Create an exhibit card that helps your listener understand how you think these songs express the book’s meaning.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Create a multi media presentation that fully explores a key theme from the book.</td>
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Do: Relate elements of fiction to their own lives.
Understand: Good fiction is often about the reader too. Good fiction helps readers try on different lives.

---

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, insightful, and detailed.

<table>
<thead>
<tr>
<th>Theme</th>
<th>Character</th>
<th>Setting</th>
<th>Task</th>
<th>Special Instructions</th>
</tr>
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<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Create a pair of collages that compares you and a character from the book. Be sure the images and words on each collage are meaningful to viewers.</td>
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</tr>
</tbody>
</table>

Do: Relate elements of fiction to their own lives.
Understand: Good fiction is often about the reader too. Good fiction helps readers try on different lives.
**RAFTs can...**

- Be differentiated in a variety of ways: readiness level, learning profile, and/or student interest
- Be created by the students or incorporate a blank row for that option
- Be used as introductory “hooks” into a unit of study
- Keep one column consistent while varying the other columns in the RAFT grid
<table>
<thead>
<tr>
<th>Sample RAFT Strips</th>
<th>Role</th>
<th>Audience</th>
<th>Format</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sample RAFT Strips</td>
<td>Role</td>
<td>Audience</td>
<td>Format</td>
<td>Topic</td>
</tr>
<tr>
<td>Gingerbread Man</td>
<td>Our Class</td>
<td>Oral Response</td>
<td>I never should have listened to the fox</td>
<td></td>
</tr>
<tr>
<td>Squanto</td>
<td>Other Native Americans</td>
<td>Pictographs</td>
<td>I can help the inept settlers</td>
<td></td>
</tr>
<tr>
<td>Band Member</td>
<td>Other Band Members</td>
<td>Demo Tape</td>
<td>Here's how it goes</td>
<td></td>
</tr>
<tr>
<td>Positive Numbers</td>
<td>Negative Numbers</td>
<td>Dating Ad</td>
<td>Opposites Attract</td>
<td></td>
</tr>
<tr>
<td>Rational Numbers</td>
<td>Irrational Numbers</td>
<td>Song</td>
<td>Must you go on forever?</td>
<td></td>
</tr>
<tr>
<td>Decimals</td>
<td>Fractions</td>
<td>Poem</td>
<td>Don't you get my point?</td>
<td></td>
</tr>
<tr>
<td>Perimeter</td>
<td>Area</td>
<td>Diary Entry</td>
<td>How your shape affects me</td>
<td></td>
</tr>
<tr>
<td>Monet</td>
<td>Van Gogh</td>
<td>Letter</td>
<td>I wish you'd shed more light on the subject!</td>
<td></td>
</tr>
<tr>
<td>Joan of Arc</td>
<td>Self</td>
<td>Soliloquy</td>
<td>To recant, or not to recant; that is the question</td>
<td></td>
</tr>
<tr>
<td>Tree</td>
<td>Urban Sprawl</td>
<td>Editorial</td>
<td>My life is worth saving</td>
<td></td>
</tr>
<tr>
<td>Thoreau</td>
<td>Public of his day</td>
<td>Letter to the Editor</td>
<td>Why I moved to the pond</td>
<td></td>
</tr>
<tr>
<td>Young Chromosome</td>
<td>Experienced Chromosome</td>
<td>Children's Book</td>
<td>What becomes of us in mitosis?</td>
<td></td>
</tr>
<tr>
<td>First Grader</td>
<td>Kindergarten</td>
<td>Art</td>
<td>What's best about 1st grade?</td>
<td></td>
</tr>
</tbody>
</table>

Grade 6
Social Studies RAFT

Students will:

Know:
- Names and roles of groups in the feudal class system.

Understand:
- Roles in the feudal system were interdependent.
- A person’s role in the feudal system will shape his/her perspective on events.

Be Able to Do:

Research
- See events through varied perspectives
- Share research & perspectives with peers

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Carol Tomlinson
You miss 100 percent of the shots you never take.

Wayne Gretzky