Engaging Students in a Differentiated Classroom: Ideas and Issues to Consider

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1 To Differentiate Instruction and Engage Students

Requires a "growth" or "fluid" mindset, moves to student-teacher connections, and evolves to community.

Student Engagement

Talk with someone sitting near you – what do you think of when you think about student engagement?

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?

A Visual Analogy
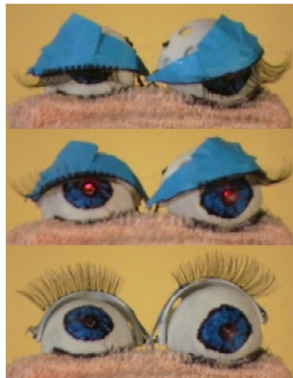
For Your Consideration

IN ANOTHER INTERVIEW...

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

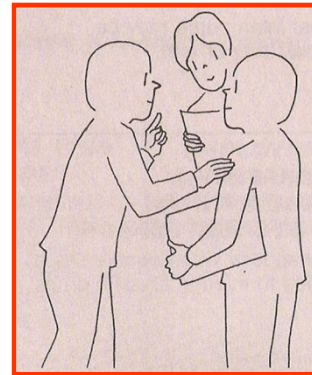Sir, the computer said you couldn't land the plane successfully.

Captain Sullenberger: Then I'm glad a computer wasn't flying the plane.

Slide 1

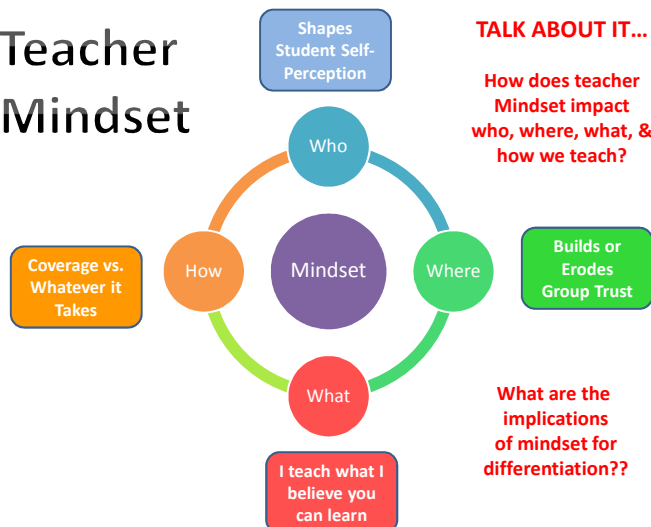What kind of pilot are you?

Slide 2

Heads Together…

How Does Teacher Mindset Look or Sound in the Classroom?

Examine some of the ideas on your handout and discuss your views with someone sitting near you. What might a growth mindset teacher do to address that classroom management issue?

Slide 3

Teacher Mindset

Shapes Student Self-Perception

Who

Where

Builds or Erodes Group Trust

Mindset

How

Coverage vs. Whatever it Takes

What

I teach what I believe you can learn

TALK ABOUT IT…

How does teacher Mindset impact who, where, what, & how we teach?

What are the implications of mindset for differentiation??

Slide 4

How Does Teacher Mindset Look or Sound in the Classroom?

	Fixed Mindset	Growth Mindset
Crafting a classroom environment		
Designing student tasks		
When a student is "stuck" with a task		
When homework isn't done		
When giving feedback on student work		

How Does Teacher Mindset Look or Sound in the Classroom?

	Fixed Mindset	Growth Mindset
When a student gets an answer wrong (or can't answer) in class.		
In communicating with parents about their students		
In setting, presenting, and implementing standards of quality work		
When a student misbehaves		
In designing group work		

Teacher-Student Connections Bridge the Risk of Learning

Paving the Way

MINDSET ➡ **CONNECTIONS** ➡ **COMMUNITY**

to 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

A Simple Idea for Connecting with Kids

Name_____   Date_____   Pd._____

Best Thing about the Week _____

Lord of the Flies Anticipation Guide

Warm-up Activity: Read the statements below and write an "A" next to any with which you agree, a "D" by any with which you disagree, and "NS" if you're not sure how you feel. Explain BRIEFLY why you feel as you do.

1.   _____   Children are capable of horrific behavior.
_____
Explain:
_____
2.

Some alternatives: Action State (wishing I were skateboarding); How you're feeling about the novel; favorite movie; do you like hot dogs; worried about; etc.

Mark Myles

Paving the Way

**MINDSET ➡ CONNECTIONS ➡ COMMUNITY**

to Learning

- **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.**
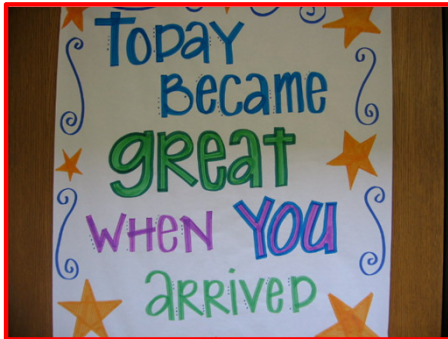- **You cannot have a relationship with or make things relevant for or expect rigor from a kid you don't know.**

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

The BIG Picture by Dennis Littky, ASCD, p. 39

How Community Evolves over Time

Listening

Responding

Working

Problem Solving

Celebrating
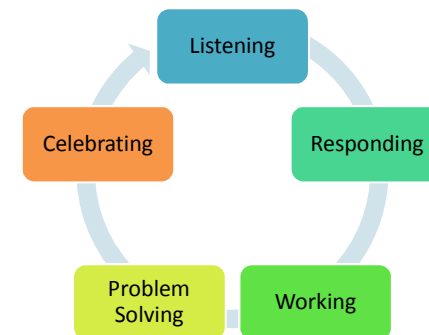
Building Community

Building Community

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?
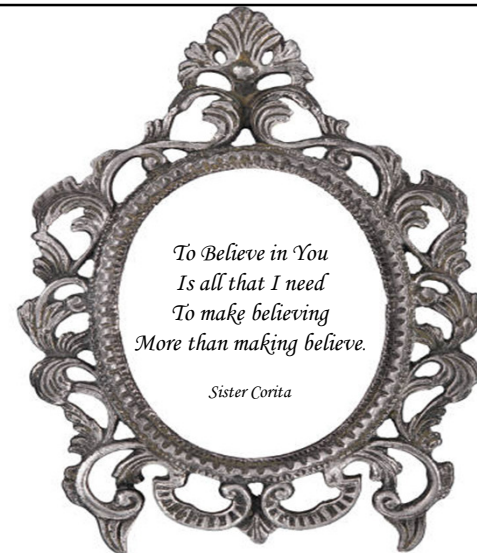
How do you think mindset and decisions about connections Interact?

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?

To Believe in You
Is all that I need
To make believing
More than making believe.

Sister Corita

"An average student with a teacher whose teacher-student interactions scored 1 standard deviation below the mean in Emotional Support would, on average, place in the 41st percentile in end-of-year tests.

The same student with a teacher whose interactions scored 1 standard deviation above the mean in emotional Support would, on average, place in the 59th percentile in end-of-year tests."

Allen, J., Gregory, A., Mikami, J, Hamre, B., & Pianta, R. Predicting Adolescent Achievement with the CLASS-S Observation Tool. A CASTL Research Brief. University of Virginia, Curry School of Education

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**To Differentiate Instruction and Engage Students**

Requires teachers to become a student of their students

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…
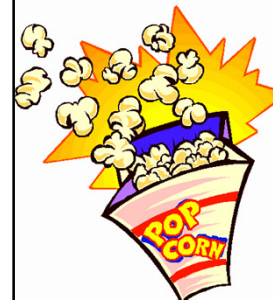
❖ From *The Blind Side*…

❖What does this mom model that that's important for teachers to understand?

❖What improves in schools when we work persistently to enact the lesson she models?

Talk with two colleagues from your general grade level to share ways you get to know students in your class(es).

Now talk with two colleagues who teach in grade levels quite different from your own to share ways you get to know students in your classes.

Strength-Based Assessments

Typical Assessment Information

- 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

Based on idea from Sousa & Bender (2008). *How the Brain Influences Behavior: Management Strategies for Every Classroom*. Thousand Oaks, CA: Corwin.

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:

Learning Profile Glyph

Learning Profile Glyph

1. **Favorite subjects in school =head color and body color**
   - Math-purple
   - Science-red
   - Reading-blue
   - Writing-orange

2. **Least favorite subjects in school=hair color**
   (you can design fun hair)

3. **If you are a boy, use shorts. If you are a girl use the pants.**
   Make the color pants with your favorite color.

Learning Profile Glyph

6. If you prefer to work alone on project, put on stripes. If you prefer to work in groups, draw polka dots on your shirts.
7. If you like to be challenged and learn new and difficult things, design a hat for your self.

Learning Profile Glyph

4. **Strongest multiple intelligence area=shirt color**
   - intrapersonal-white
   - Interpersonal-red
   - Musical-blue
   - Kinesthetic-black
   - Logical mathematical-yellow
   - Verbal/linguistic-purple
   - Visual/spatial-orange
   - Naturalist-green

5. **Learning preference =shoe color**
   - Visual-white
   - Auditory-black
   - Kinesthetic-brown

Identity Crest

Use words, pictures, and/or symbols to create a "crest" that reveals who you are and aspire to be or do. You can include…

- Where you're from
- Your defining trait(s)
- Your strengths & interests
- A motto, proverb, or verse that you live by
- Your greatest achievement
- Aspects of your family's identity (e.g., accomplishments, values)
- What inspires you
- Your goals

Kiwana Brown & Steve Wool, Evanston Township High School
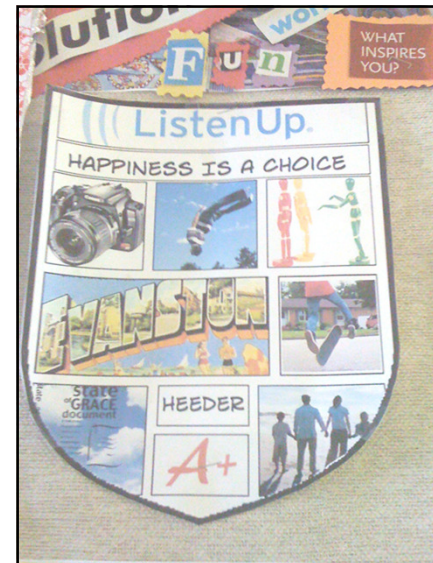
- What do these crests reveal about each student?
- What "entry points" for teacher-student or student-student connections do you see?
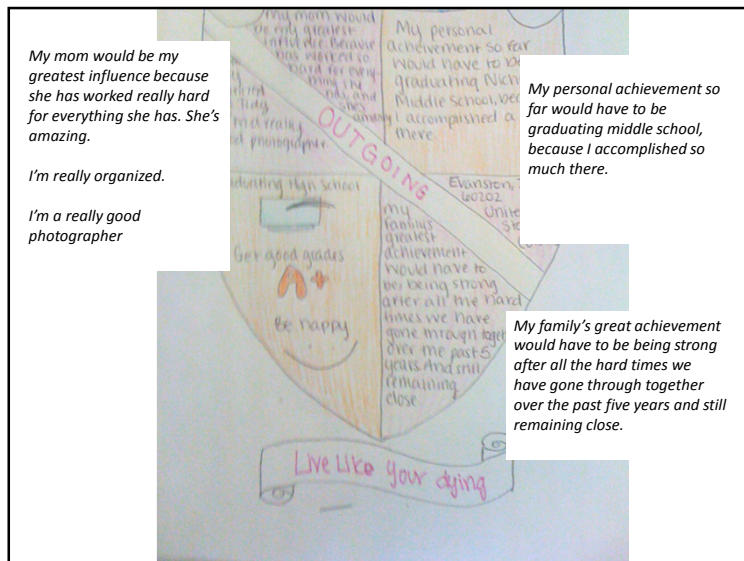
My mom would be my greatest influence because she has worked really hard for everything she has. She's amazing.

I'm really organized.

I'm a really good photographer

My personal achievement so far would have to be graduating middle school, because I accomplished so much there.

My family's great achievement would have to be being strong after all the hard times we have gone through together over the past five years and still remaining close.

Inner Warrior
What are you willing to fight for?

Student: Akon
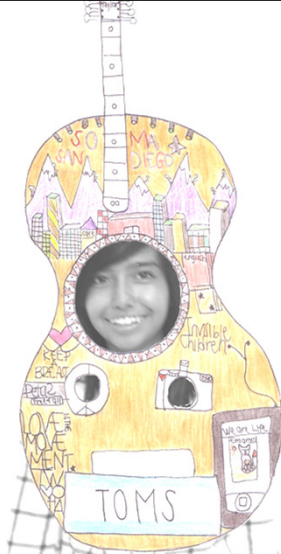
School: High Tech High School
San Diego

Teacher: Maria McTighe

Inner Warrior
What are you willing to fight for?

Student: Harmony

School: High Tech High School
San Diego

Teacher: Maria McTighe

Inner Warrior
What are you willing to fight for?

Student: Taylor

School: High Tech High School
San Diego

Teacher: Maria McTighe

Inner Warrior
What are you willing to fight for?

Student: Juan

School: High Tech High School
San Diego

Teacher: Maria McTighe

Inner Warrior
What are you willing to fight for?

Student: Juan

School: High Tech High School
San Diego

Teacher: Maria McTighe

Design Your own Postcard

Use words or images to create a mini-mural of you.

Doubet, '05

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.

Interest: Experience w/ it?: Connection w/ Science?	Interest: Experience w/ it? Connection w/ Science?
Interest: Experience w/ it? Connection w/ Science?	Interest: Experience w/ it? Connection w/ science?

Example of a brief secondary interest pre-assessment.

Design Your own Postcard

On the reverse side
of your postcard,
describe the significance
of each of your depictions.
Explain why you chose
each image/word.

List Personal Info.:

Name
Period
Email
Parent/Guardian:
Phone (s):
Email(s):

Doubet, '05

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To Differentiate Instruction and Engage Students

Is rooted in quality curriculum.

Clarity about Curriculum Essentials
(is the compass for teaching for understanding)

Providing High Quality Curriculum

Teachers who understand the centrality of high quality curriculum in order to teach for understanding know that students can only become powerful learners if what they are asked to learn is powerful.

Providing high quality curriculum looks, sounds, and feels like:
--teaching for understanding (emphasizing the concepts/principles/
      essential understandings of a discipline)
--teaching for transfer (making sure students use what they learn in
      authentic contexts)
--insisting on and supporting consistent growth in high level thought
--guiding high quality discussions to explore important ideas
--ensuring that students examine varied perspectives and the relative
      merits of those perspectives
--helping students connect the important ideas of content with
      their own lives and experiences
--vigorously supporting students in developing the skills and attitudes
      necessary to do quality work
--starting with what the most able students need and supporting
      all students in success with that level of curriculum

Dang... Zelda seems to attract all the little kids.

QUALITY CURRICULUM:
THE SHORT VERSION

Engagement + Understanding = Success

However we conceive it, every lesson plan should be, at its heart, a motivational plan. Young learners are motivated 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 greated than self

Tomlinson • 2003 • Fulfilling The Promise...

Planning a Focused Curriculum Means Clarity About What Students Should …

KNOW
- Facts
- Vocabulary
- Definitions

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

- BE ABLE TO DO
  - Processes
  - Skills

Rules for the Road

- Quality curriculum requires student understanding and student engagement.
- Understanding comes from student interaction with conceptually-based, rigorous curriculum that gradually increases in sophistication.
- Student engagement is derived from curriculum that connects to the heart and mind of a learner.

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Planning a Focused Curriculum

Means Clarity About

What Students Should:

Know ⟶ **Facts** (Columbus came to the "New World"
Vocabulary (voyage, scurvy)

Understand ⟶ **Concepts** (exploration, change)
Principles/Generalizations (Change can be both positive and negative.
Exploration results in change. People's perspectives affect how they respond to change).

Be Able to Do ⟶ **Skills**
Basic (literacy, numeracy)
Thinking (analysis, evidence of reasoning, questioning)
Of the Discipline (graphing/math/social studies)
Planning (goal setting; use of time)
Social

**As a Result of a Lesson, Lesson Sequence, Unit, and year**

In general, these are held steady as a core for nearly all learners in a differentiated classroom*

*Exception--linear skills and information which can be assessed for mastery in the sequence (e.g. spelling)

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4 To Differentiate Instruction and Engage Students

Teachers routinely use a variety of instructional strategies to plan rigorous, student-centered respectful tasks that meet learners' diverse learning needs.

Redefining Rigor

Creating a Shared Understanding
Among Educators
to Help all Students Achieve
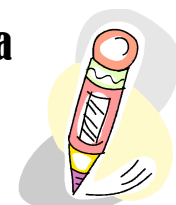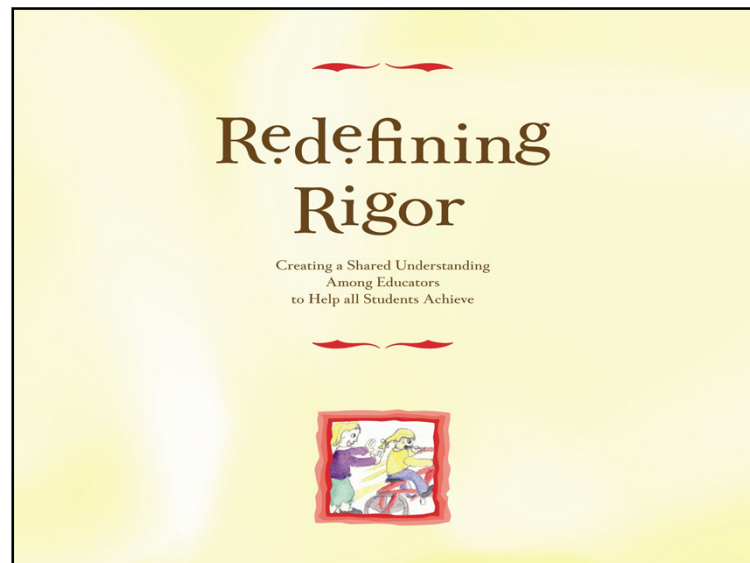
Respectful or Not-so Respectful? (talk)

- **Scenario 1**
- Teacher A is helping students learn about simple machines and their uses in the real world. For most students, this is a fairly new topic. She does have a few students, however, who studied this in depth last year in an enrichment pullout program. When she assigns practice activities, she figures she will ask each experienced student to work in a small group with students who are new to the topic so that they can help those who are not as advanced in their knowledge of the topic. She figures that will help the advanced students, too, because students learn so much be teaching others.

Respectful or Not-so Respectful? (talk)

- Working in pairs, review the scenarios and note your answers to the questions below until you have reviewed all 12 scenarios.
  - Is it an example of a respectful task? Why or why not?
  - How would you improve the assignment and adapt it for your class?
- Join another pair to form a small group and make a list of Do's and Don'ts for designing respectful tasks.

Adapted from:
Strickland, C. A. (2009). *Professional development for differentiating instruction.* Alexandria, VA: ASCD.

Respectful or Not-so Respectful? (talk)

- **Scenario 2**
- Teacher B is assigning math homework. Some of her students are still struggling to master converting fractions to decimals, some understand the process but need more practice, and some are fairly proficient. Because she knows that it will take longer for some students to complete the problems, she decides to assign 10 problems to struggling students, 20 problems to on-grade level students, and 30 problems to advanced students.

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Respectful or Not-so Respectful?

- **Scenario 3**
- Teacher C likes to students options when completing a culminating project social studies. She typically tells them they can write a report, prepare a PowerPoint presentation, or give a speech that reveals their knowledge, understanding, and skill with a unit of study. However, one of her students is a really poor writer, so she asks him to do a report to give him additional practice with that skill.

Respectful or Not-so Respectful?

- **Scenario 5**
- Teacher E is teaching his students to design pop-up cards that exemplify the style of different artistic movements. He has differentiated the assignment so that students can choose the two movements that most interest them. The methodology for the project is quite complex, so he designs a version of the assignment that is much simpler to complete. Because three students are non-English speakers, he assigns them to the simpler task.

Respectful or Not-so Respectful?

- **Scenario 4**
- Student D got a 100 on a pre-test that assessed his ability to use PowerPoint. So instead of the class demonstrations and assignments, his teacher asks him to design a rubric that he could use to judge the professional quality of a PowerPoint presentation. His task, over several days, is to use a rubric evaluate several examples the teacher found on the Web. For fun, the teacher also throws in a presentation that she herself has designed. Student D must choose one fo the examples and redo it so that it looks more professional. He will present both the "before" and "after" versions to the class.

Respectful or Not-so Respectful?

- **Scenario 6**
- Teacher F is assigning a chapter in the science text. She knows that some students in her high school class read at an elementary level, some at a middle school level, some at grade level, and a few at a postsecondary level. But she only has one textbook. She tells students that she knows that some of them will have a hard time with the reading, but just to do as much of it as they can.

Respectful or Not-so Respectful? (talk)

- **Scenario 7**
- Teacher G is helping students learn about simple machines and their uses in the real world. A few students studied this in depth last year in an afterschool enrichment class, but it is a fairly new topic for most students. Teacher G does not want to bore the experienced students with introductory lessons and worksheets, so he lets them work with building materials in the back of the room to construct a Rube Goldberg device that incorporates each type of simple machine at once. The rest of the students will complete a packet of worksheets.

Respectful or Not-so Respectful? (talk)

- **Scenario 9**
- Teacher J likes to give students options when completing a culminating project. He typically tells them they can write a report, prepare a PowerPoint presentation, give a speech, design a Web page, write a skit, or design a series of posters. All work must meet a provided list of criteria. However, one of his students has a really hard time making choices, so he decides to limit this student's choices to three. He tries to pick three options that this student would find interesting.

Respectful or Not-so Respectful? (talk)

- **Scenario 8**
- Teacher H wants all students to complete outside reading. He asks each student to read 10 books per semester and record their reaction to the books in a journal. He provides a number of prompts to help them know what to write. Teacher H knows that a few students in his class read considerably above grade level, so he assigns them 20 books per semester.

Respectful or Not-so Respectful? (talk)

- **Scenario 10**
- One of Teacher K's students got a 100 on her word processing pre-test, so the teacher sends her to the library to do an independent research paper on the history of computers.

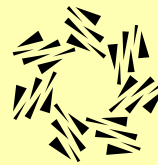## Respectful or Not-so Respectful? (talk)

- **Scenario 11**
- Teacher L is assigning a project for which students will compare and contract the musical styles of two composers of their choice. Two students in the class are classified as special education students, so she figures they will have trouble completing the fairly complex compare and contrast matrix she has designed. She assigns these students to study one composer, instead.

Respectful Tasks

- Equally interesting, appealing, engaging

- Focused on the same essential understandings & skills

- Requires all students to work at high levels of thinking (to apply, argue, defend, synthesize, transform, look at multiple perspectives, associate with, etc.)

Respectful or Not-so Respectful? (talk)

- **Scenario 12**
- Teacher M is assigning a reading in the psychology text on the multiple intelligence theories of Howard Gardner and Robert Sternberg. She has prepared questions for students to answer based on their reactions to the reading. She believes the reading level of the text is appropriate for most of her students, so she asks them to read the section in the text on this topic. However, a few students read and comprehend at a much higher level, so she gives them a reading on this topic from the AP text she has borrowed from her colleague down the hall.
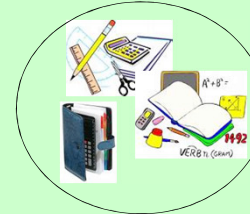
Students benefit by being personally involved in the subject material with techniques such as handouts, manipulatives, field experience, experimentation, or even whole body movement (total physical response) to potentiate the implantation of the new information into memory and improve retrieval later. Some specific activities include:

1. *Multiple forms of review such as concept maps to provide framework for retrieval.*
2. *Visual imagery; Visualize the historical event using words or pictures on paper.*
3. *Personal relevance: Tie the information to their lives. Think, write about the connection, and share with a partner.*
4. *Produce a product or make models*
5. *Role-play or pantomime.*

Research-Based Strategies to Ignite Student Learning by Judy Willis, M.XC. • ASCD • p. 18
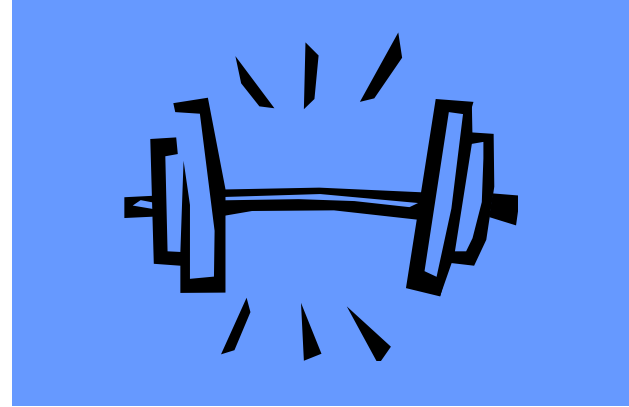
Student-Centered Learning

Student-centered learning can lead to mastery, because the lesson has personal meaning that they can see has the potential to increase their success and skill in achieving something they care about.

Research-Based Strategies to Ignite Student Learning by Judy Willis, M.D. • ASCD • p. 20

Zone of Proximal Development

Lev Vygotsky, 1978

The brain-based learning research reinforces the need for classrooms to once again become places where the

IMAGINATION   SPIRIT   CURIOSITY

are encouraged, rather than left outside in the playground when the school bell rings.

Research-Based Strategies to Ignite Student Learning by Judy Willis, M.D. • ASCD • p.73

Appropriate Challenge…

UNDERCHALLENGE:

Teachers recognize that a state of anxiety occurs when students feel alienated from their academic experiences or anxious about their lack of understanding. This stressed state happens when a lesson is tedious, not relevant to their lives, confusing, or anxiety-provoking (such as when they don't know the meaning of the vocabulary words in a story or if a math lesson is too fast for them to follow or too slow to hold their interest).

Provide Realistic Challenge

Challenging students at reasonable, appropriate levels is one of the most powerful strategies for success, but teachers must carefully monitor the level of challenge. If goals do not provide sufficient challenge to engage students, or if the challenge exceeds students' levels of capability, frustration replaces motivation.

Willis,J. M.D. – (2007) *Brain-Friendly Strategies* – Alexandria, VA,. ASCD, p.25

Provide Realistic Challenge – –

The objective of this strategy is to provide experiences and develop student goals based on *individualized realistic challenge,* which connects students to knowledge by communicating to them high expectations while confirming that they have the capacity to reach these goals. Teachers can support this kind of challenge with clearly structured goals, frequent feedback, and positive intrinsic reinforcement, all geared to students' individual intelligences and learning styles. Students develop confidence when they know that they will have access to the tools and support they need to reach the expectations set for them.

Willis,J. M.D. – (2007) *Brain-Friendly Strategies* – Alexandria, VA,. ASCD, p.25

Provide Realistic Challenge

A study examining what makes computer games so captivating found that the key element is variable challenge based on player ability. The most popular computer games in the study took players through increasingly challenging levels as they became more and more skillful. As players' skills improved, the next challenge would stimulate new mastery to just the right extent that the player could succeed with practice and persistence (Malone, 1981). Extending that kind of incremental, motivating responsive challenge in the classroom is motivating and imparts a sense of accomplishment.

Willis,J. M.D. – (2007) *Brain-Friendly Strategies* – Alexandria, VA,. ASCD- p. 25

PRIME THE PUMP

Students are more engaged when they are interested in the information available for them to learn. Open-ended questions that do not have single, definite, correct answer and that are student-centered (connected to their interests or experiences) can keep them interested, especially if they receive encouragement for expressing their ideas.

Research-Based Strategies to Ignite Student Learning by Judy Willis, M.D. • ASCD • p. 42

When possible, engage and maintain students' attention by providing opportunities for them to set their own pace, select the hook that will connect them to the topic, and have some choice in the way they learn the information.

Research-Based Strategies to Ignite Student Learning by Judy Willis, M.D. • ASCD • p. 43

Remember that interest and discovery drive achievement, and students are more likely to remember and really understand what they learn if they find it compelling or have some part in figuring it out or discovering it for themselves. In addition, when interest is high, stress and anxiety are decreased and students are more accepting of their errors, more willing to try again, and less self-conscious about asking questions. Because of their increased focus, they are more likely to comprehend information that might otherwise be challenging for them.

Research-Based Strategies to Ignite Student Learning by Judy Willis, M.D. • ASCD • p.65

Distinctions Between Systematic Instruction and Project Work	
Systematic Instruction	**Project Work**
For acquiring skills	For applying skills
Activity at instructional level	Activity at independent level
Teacher directs the student's work	Teacher guides the student's work
Student follows instructions	Student chooses from alternatives
Extrinsic motivation may be important	Intrinsic motivation characterizes the work particularly
Teacher addresses student's deficiencies	Teacher builds on student's proficiencies

	Systematic Instruction for Acquiring Skills	Project Work for Applying Skills
	The types of activity or task the teacher plans will be different according to which kind of learning is intended.	
Examples	telling the time bar graphs designing experiments	investigating change doing a survey and representing the results investigating water pollution
Activity	unknown, new challenging required closed, limited steps	familiar (maybe in new context) intrinsically satisfying chosen exploratory, open-ended
Teacher	instructs prescribes directs encourages effort	gives guidance suggests alternatives observes, listens, questions encourages ideas
Child	is as yet incapable follows instructions acts with help is uncertain about ability accepts teacher's evaluation works alone	is capable, proficient practices skills unaided acts independently is confident about ability judges own success often consults, collaborates

Source: http://www.projectapproach.org/

Science Menu ON
Chemical Problems in the Environment

Intended student outcomes (e.g. facts, big ideas, skills)
- Facts
  - Chemical problems that currently affect our environment
  - Location and characteristics (cause and effect) of these problems

- Understandings:
  - The environment is a system; change to one part of the system results in changes in the other parts.
  - Humans and their natural environment exist in an interdependent relationship with one another. To be an effective citizen, it is necessary to know how to deal with problems related to science and technology.

- Skills:
  - Discuss environmental problems in terms of location and impact
  - Trace past and present trends and predict future patterns
  - Utilize charts and graphs to display findings

High School Science Menu

- Adapted from Ellyn Shaw, Environmental Science, Boise ID
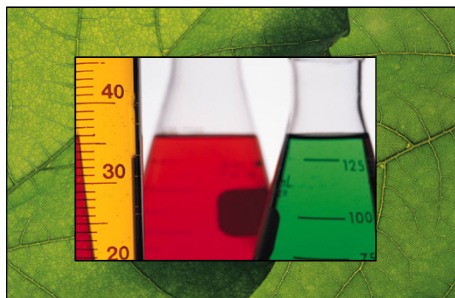
MAIN DISHES (You *must* do ALL of these...)

- **Select a chemical problem in the environment and**
  - **Define and describe the difficulties is presents**
  - **Be sure to discuss why, where, and to whom/what**

- **Your choices are:**
  - **Global warming/Greenhouse effect**
  - **Ozone depletion**
  - **Acid Rain**
  - **Pollution**
  - **Water Pollution (including thermal pollution and land/ground pollution)**

- **Develop a multimedia presentation that…**
  - **…includes an annotated map showing where the problem exists, what/who is affected by it, and the degree of impact**
  - **…describes present and future solutions**
  - **…presents your recommendations.**

## SIDE DISHES (You *must* do at least *one* of these...)

- Determine the approximate costs of the problem of one badly affected region and develop a graphic that shows total costs and what makes the costs (for example: Health costs, clean-up costs, lost revenues from land, etc.)

- Develop a timeline of the evolution of the problem over the last 100 years, including significant dates, and factors that contributed to the change. Take the timeline into the future based on your current understanding of trends associated with the problem.

Teaching Up

If we assume that students can do more than we think they can and plan to prove our assumption is correct, it most likely will be.

The most powerful teaching will always occur when we ask ourselves the questions, "What are the essential understandings and skills that serve as a baseline for my most able students?" and "How can I plan to support all my students in achieving those baselines?"

Always scaffold up. Never dumb down!!
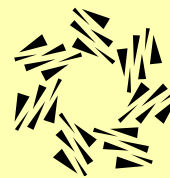
DESSERTS (You may do as many of these as you like)

- Create a Gary Larson-type cartoon or an editorial cartoon that makes a commentary on the problem. See your teacher for examples.

- Prepare a fictionalized account, but based on scientific fact, of a person who lives in a badly affected area. Your goal is to put a human face on the problem.

- Develop a 60-second YouTube public service announcement to raise audience awareness of the problem and introduce positive actions citizens might take to improve the prognosis for the future.

Expert Teachers

1. Can identify the most important ways in which to represent the subject that they teach (deep knowledge vs. surface knowledge).

2. Are proficient at creating an optimal classroom climate for learning (atmosphere of trust; okay to make mistakes; trust between teacher & student and between student & student; everyone—including the teacher is involved in the process of knowing; cool to learn; confidence that we can all know).

3. Monitor learning and provide feedback. (Through information gathering and responsiveness to students, they anticipate when interest is waning, know who is not understanding, and make adaptations as needed. A typical lesson never goes as planned.)

3. Believe that all students can reach the success criteria. (Requires teachers to belie that intelligence is fluid rather than fixed, have a high respect for each student, and show a passion that all can attain success.)

4. Influence surface & deep student outcomes. (The teacher must set, challenging g invite students to engage in the challenges, & commit to achieving the goals.

Hattie, J. (2012). *Visible learning for teachers: Maximizing impact on learning.* New York: Routledge,

Teachers Comfortable with Differentiation and Student Engagement Exhibit:

A growth mindset, teacher-student connections, and community of learners typifies the class

Routines are fluid, designed by teacher and students, taught, practiced, refined together

Curriculum consistently demonstrates engagement, understanding (meaning and sense) for all students. Teaching up is a norm.

Assessment routinely addresses KUDs with emphasis on understanding and transfer

Real-world projects that engage students and cause them to use the skills of professionals

A repertoire of instructional strategies is broad and often teacher-invented to address particular student and group needs

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Good to great comes by a cumulative process---
step by step,
action by action, action by action,
decision by decision,
turn upon turn of the flywheel---

that adds up to sustained spectacular results . . . . It was a quiet, deliberate process of figuring out what needed to be done to create the best future results and then taking those steps one way or the other. By pushing in a constant direction over an extended period of time, they inevitably hit a point of breaking through.

Common Ground by Dufour-Eaker-Dufour pp.10-11

Inspired teachers are passionate about their work. They are firmly convinced that they are responsible for student learning and they consistently bend their efforts toward doing a better job every day.

C.F. Steele (2009). *The inspired teacher.*
Alexandria, VA: ASCD
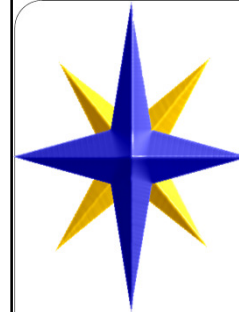
"Better is possible.
It does not take genius.
It takes diligence.
It takes moral clarity.
It takes ingenuity.
And above all, it takes
a willingness to try."

Atul Gawande