Engaging Young Adolescents in Substantive Content

Wormeli, 2007
For more information or discussion on any of these topics:

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The Gettysburg Address

Four score and seven years ago our fathers brought forth on this continent, a new nation, conceived in Liberty, and dedicated to the proposition that all men are created equal. Now we are engaged in a great civil war, testing whether that nation, or any nation so conceived and so dedicated, can long endure. We are met on a great battle-field of that war. We have come to dedicate a portion of that field, as a final resting place for those who here gave their lives that that nation might live. It is altogether fitting and proper that we should do this. But in a larger sense, we can not dedicate -- we can not consecrate -- we can not hallow -- this ground. The brave men, living and dead, who struggled here, have consecrated it, far above our poor power to add or detract...
With hocked gems financing him, Our hero bravely defied all scornful laughter That tried to prevent his scheme. Your eyes deceive, he had said; An egg, not a table Correctly typifies this unexplored planet. Now three sturdy sisters sought proof, Forging along sometimes through calm vastness Yet more often over turbulent peaks and valleys. Days became weeks, As many doubters spread Fearful rumors about the edge. At last from nowhere Welcome winged creatures appeared Signifying momentous success.

-- Dooling and Lachman (1971) pp. 216-222
What **Dis**engages Young Adolescents?

- Removing students from p.e., fine and performing arts classes to double-up on math and reading classes for state exams
- Unwavering adherence to pacing guides.
- Homework that does not advance our cause.
- Assuming all students have reviewed content because we called on a few to answer recall questions.
- Telling students to study for the test.
- Relying solely on talking to students as our primary way to get information across.
- Watching videos for the whole class period.
- Lecturing for the majority of the period – Lectures chunked works well.
- Teachers who are not interested in their own subjects.
What Engages Young Adolescents?

1. Expertise in young adolescents.

Circle in your lesson plans where you see evidence of your expertise in teaching young adolescents.

You Should find:

- Structure and clear limits
- Physical activity every single day
- Frequent and meaningful experiences with fine and performing arts
- Opportunities for self-definition
- Safe and inviting emotional atmosphere
- Students experiencing real competence daily
- Meaningful participation in families, school, and communities
“Physicalizing” the abstract and symbolic:

- Gets oxygen and nutrients to cognitive centers of the brain via the bloodstream
- Relieves bone growth plate stress
- Relaxes students and improves their perspective/attitude – creates mild euphoria
- Supports cognitive theory regarding how students best learn
- Makes abstract content vivid and thereby illuminates it
- It’s fun and intrinsically motivating
Premise:

There is not any curriculum so symbolic or abstract that we cannot “physicalize” it for better student learning.
Physicalizing Process:

- Identify essential components, pieces, or definition of whatever we’re teaching
- Physicalize those pieces and present them to the class.
- Class critiques the physicalization in terms of accuracy, comprehensiveness, appropriateness, and clarity. ‘Makes suggestions for improvement.

All three steps are learning experiences that help students internalize the knowledge.
Concrete or Shape Spellings

Ask students to spell words in ways that demonstrate their meanings. For example, if the word is “tall,” the letters will be very tall on the page. If the word is “analysis,” the letters will be broken into smaller pieces, showing their essential elements. If it is “synthesis,” students will write the letters coming together and forming something new as a result.
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</tbody>
</table>
What Else Indicates Expertise in Young Adolescent Learning?

- Basic of students met: food, water, rest, good health, physical presence.
- Promotion of sleep -- Make it a regular homework assignment
- Teacher Advisory
- Students involved in their own learning, including assessment
- Students’ knowing themselves as learners and becoming their own advocates
- Teaming
- Outdoor Education programs
- Teachers’ patience with the emotional roller coaster
- Stress on growth plates on the ends of bones relieved regularly – get them moving every 15 minutes!
What Else Engages Young Adolescents in Substantive Content?

2. Formative assessment
3. Creating prior knowledge where there was none
4. Summarization
5. Structure: Our ability to retrieve information based on how it was structured when it first entered our minds, not how we studied it
6. Primacy-recency effect
7. Priming/preparing students’ minds for learning prior to teaching important concepts
8. Vividness in learning experiences
9. Examples contrasted with near examples
10. Service learning
11. Ample opportunities for articulating and defending thinking
12. Metaphors and analogies
13. Writing as a tool for learning more
14. Collaborative efforts among students
15. Non-linguistic representations
16. Not having to take notes during lectures and media presentations
17. Getting students to learn the material in terms of relationships, connections, and patterns, not individual discreet pieces
18. Flexible thinking among students; creating mental dexterity
19. Teachers who know their subjects and how to teach them
20. Teachers who sincerely enjoy being in the presence of their students
21. Students have a role in their own learning
“Getting the picture does not mean writing the formula or crunching the numbers, it means grasping the metaphor.”

-- James Bullock, 1994, p. 737

In math, models are the metaphors.
Let’s frame today’s conversation...
I’m a bit rusty on this...
Let’s peel away the layers and see what lies in the center.
It was anarchy in the cafeteria!
There was an upturn in the economy.
Breaking news...
Are you on the fence about it?
Attack the arguments, not the person.
If \( x = 2 \) and \( y = 4 \), what does \( 3x + 6y \) equal?
Toss the idea around.
The sinking of the Lusitania was the catalyst for...
You need to have parallel structure in this sentence
Wouldn’t it be great to harness the power of the sun?
What’s our benchmark for this standard?
How many main body paragraphs do you have?
We’re not on the same wavelength.
Can I grab two minutes of your time today?
This is a lot to absorb.
I was floored by his behavior.
Google it.
Endoplasmic Reticulum is like the circulatory system of the cell.
What’s the root of the word?
Do you get the point of this?
Students must have a frame of reference to understand the metaphor:

“He flozzled his Website.”

-- Is this a good or a bad thing? We don’t know.

“He flozzled his Website, and the fallout was considerable.”

This is probably something bad because we understand that “fallout” usually refers to bad things, such as the radioactive aftermath of a nuclear detonation. We can gather meaning for the unknown phrase, “flozzled,” because we understand the fallout metaphor.
Ask students to reinforce their metaphors occasionally with associated attributes and verbs. Examples:

- If students state that debate opponents squared off about a controversial issue, they can continue the metaphor by describing who was in each corner of the controversy.
- If they describe a particular year in Congress as a three-ring circus, they can identify a particular policy or political party as the ringmaster.
- Students can observe a herd of classmates stampeding down the hallway.

It helps to make the implicit explicit:

- What does it mean to triangulate something?
- If our thinking is parallel to someone else’s thinking, what do we mean?
- The character said that life was like a carnival Tilt-a-Whirl. What did she mean by that?
- Kira just said she going to be toast tonight with these grades. Is this good or bad for her?
Metaphors (Gallagher)

- Iceberg
- Square Peg, Round Hole
- Brake Pedal, Gas Pedal
- Pencil/Eraser
- Billiards Table
- Snow Globe

_____ is like a ______ because _________.
Metaphors – Analysis Chart

- Symbol to Represent
- Explanation of Symbol
- How this Symbol Connects to Character/Event
- Passages Cited to Support this Connection

-- “Seen” and “Unseen” Elements/Characteristics

Great Books on Using Metaphors to Teach:

*Deeper Reading* (Gallagher) and *Metaphors We Live By* (Lakoff and Johnson)
Vividness

- “a lot” – Running to each wall to shout, “a” and “lot,” noting space between
- Comparing Constitutions – Former Soviet Union and the U.S. – names removed
- Real skeletons, not diagrams
- Simulations
- Writing Process described while sculpting with clay
Relating to Students

- Relationships transcend everything.
- They don’t care how much we know until they know how much we care.
- Subject, teacher: It’s the same thing.
- Let them know they make good company.
Affective versus academic is not a zero-sum.

Get them to like you?

Remember, they’re kids first.

Accept students as they are, not as you want them to be.
Relating to Students (continued)

- Model healthy responses to struggle and failure.
- Use the power of wait time.
- Affirm; create rites of passage.
- Allow physical touch.
Taking Positive Risks

“The fellow who never makes a mistake takes his orders from one who does.”

-- Herbert Prochnow

“If I had been a kid in my class today, would I want to come back tomorrow?”

-- Elsbeth Murphy

“Nothing ventured, something lost.”

-- Roland Barth
Negating Students’ Incorrect Responses While Keeping Them in the Conversation

- **Act interested**, “Tell me more about that…”
- **Empathy and Sympathy**: “I used to think that, too,” or “I understand how you could conclude that…”
- **Alter the reality**:
  -- Change the question so that the answer is correct
  -- That’s the answer for the question I’m about to ask
  -- When student claims he doesn’t know, ask, “If you DID know, what would you say?”
Negating Students’ Incorrect Responses and While Them in the Conversation

- Affirm risk-taking
- Allow the student more time or to ask for assistance
- Focus on the portions that are correct

Remember: Whoever is responding to students is processing the information and learning. Who, then, should be responding to students in the classroom? Students.
Relating to Students:
Putting it all Together

Merit Trust.

Be a member of humanity.

Know your students and their culture – It’s harder to be callous.

See students as capable.

Be the adult.
Be Inviting, Not Disinviting

- Greeting at the door
- Student work up in the room
- Directing students to one another
- Negating incorrect responses diplomatically
- Location of the teacher’s desk
“All thinking begins with wonder.”
-- Socrates

Our job is not to make up anybody’s mind, but to open minds and to make the agony of decision-making so intense you can escape only by thinking.”
-- Fred Friendly, broadcaster
Oxygen/Nutrient-Filled Bloodflow
When the Body is in Survival Mode

Vital Organs

Areas associated with growth

Areas associated with social activity

Cognition
The Brain’s Dilemma: What Input to Keep, and What Input to Discard?

- Survival
- Familiarity/Context
- Priming
- Intensity
- Emotional Content
- Movement
- Novelty

-- Summarized from Pat Wolfe’s *Brain Matters*, 2001
Prime the brain prior to asking students to do any learning experience.

**Priming** means we show students:

1) What they will get out of the experience (the objectives)

2) What they will encounter as they go through the experience (itinerary, structure)
Chronological Order

Definition and Key words: This involves putting facts, events, concepts into sequence using time references to order them. Signal words include on (date), now, before, since, when, not long after, and gradually.

“Astronomy came a long way in the 1500s and 1600s. In 1531, Halley’s Comet appeared and caused great panic. Just twelve years later, however, Copernicus realized that the sun was the center of the solar system, not the Earth, and astronomy became a way to understand the natural world, not something to fear. In the early part of the next century, Galileo made the first observations with a new instrument – the telescope. A generation later, Sir Issac Newton invented the reflecting telescope, a close cousin to what we use today. Halley’s Comet returned in 1682 and it was treated as a scientific wonder, studied by Edmund Halley.”
Compare and Contrast

Defintion and Key words: Explains similarities and differences. Signal words include however, as well as, not only, but, while, unless, yet, on the other hand, either/or, although, similarly, and unlike.

“Middle school gives students more autonomy than elementary school. While students are asked to be responsible for their learning in both levels, middle school students have more pressure to follow through on assignments on their own, rather than rely on adults. In addition, narrative forms are used to teach most literacy skills in elementary school. On the other hand, expository writing is the way most information is given in middle school.”
Cause and Effect

**Definition and Key words:** Shows how something happens through the impact of something else. Signal words include because, therefore, as a result, so that, accordingly, thus, consequently, this led to, and nevertheless.

“Drug abusers often start in upper elementary school. They experiment with a parent’s beer and hard liquor and they enjoy the buzz they receive. They keep doing this and it starts taking more and more of the alcohol to get the same level of buzz. As a result, the child turns to other forms of stimulation including marijuana. Since these are the initial steps that usually lead to more hardcore drugs such as Angel Dust (PCP), heroin, and crack cocaine, marijuana and alcohol are known as “gateway drugs.” Because of their addictive nature, these gateway drugs lead many youngsters who use them to the world of hardcore drugs.”
Problem and Solution

Definition and Key words: Explains how a difficult situation, puzzle, or conflict develops, then what was done to solve it. Signal words are the same as Cause and Effect above.

“The carrying capacity of a habitat refers to the amount of plant and animal life its resources can hold. For example, if there are only 80 pounds of food available and there are animals that together need more than 80 pounds of food to survive, one or more animals will die – the habitat can’t “carry” them. Humans have reduced many habitats’ carrying capacity by imposing limiting factors that reduce its carrying capacity such as housing developments, road construction, dams, pollution, fires, and acid rain. So that they can maintain full carrying capacity in forest habitats, Congress has enacted legislation that protects endangered habitats from human development or impact. As a result, these areas have high carrying capacities and an abundance of plant and animal life.”
Proposition and Support

Defintion and Key words: The author makes a general statement followed by two or more supporting details. Key words include: In addition, also, as well as, first, second, finally, in sum, in support of, therefore, in conclusion.

“There are several reasons that teachers should create prior knowledge in students before teaching important concepts. First, very little goes into long-term memory unless it’s attached to something already in storage. Second, new learning doesn’t have the meaning necessary for long-term retention unless the student can see the context in which it fits. Finally, the brain likes familiarity. It finds concepts with which it is familiar compelling. In sum, students learn better when the teacher helps students to create personal backgrounds with new topics prior to learning about them.
Claim and Evidence

Definition and Key words: The author makes a general statement followed by two or more supporting details. Key words include: In addition, also, as well as, first, second, finally, in sum, in support of, therefore, in conclusion.

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Enumeration

**Definition and Key words:** Focuses on listing facts, characteristics, or features. Signal words include to begin with, secondly, then, most important, in fact, for example, several, numerous, first, next finally, also, for instance, and in addition.

“The moon is our closest neighbor. It’s 250,000 miles away. It’s gravity is only 1/6 that of Earth. This means a boy weighing 120 pounds in Virginia would weigh only 20 pounds on the moon. In addition, there is no atmosphere on the moon. The footprints left by astronauts back in 1969 are still there, as crisply formed as they were on the day they were made. The lack of atmosphere also means there is no water on the moon, an important problem when traveling there.”
## Data-Retrieval Chart

<table>
<thead>
<tr>
<th></th>
<th>Question 1</th>
<th>Question 2</th>
<th>Question 3</th>
<th>Question 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Source 1</td>
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<tr>
<td>Source 2</td>
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<tr>
<td>Source 3</td>
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</tbody>
</table>
## Components of Blood Content Matrix

<table>
<thead>
<tr>
<th></th>
<th>Red Cells</th>
<th>White Cells</th>
<th>Plasma</th>
<th>Platelets</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Purpose</strong></td>
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<tr>
<td><strong>Amount</strong></td>
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<tr>
<td><strong>Size &amp; Shape</strong></td>
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<tr>
<td><strong>Nucleus ?</strong></td>
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<tr>
<td><strong>Where formed</strong></td>
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</table>
Perception

- What do you see?
- What number do you see?
- What letter do you see?

Perception is when we bring meaning to the information we receive, and it depends on prior knowledge and what we expect to see. (Wolfe, 2001)

Are we teaching so that students perceive, or just to present curriculum and leave it up to the student to perceive it?
Examples:

When students are learning vocabulary terms, significantly more are learned when students portray the words graphically (ex: Shape spellings) instead of defining terms and using them in a sentence.

Students can portray Aristotle’s Rhetorical Triangle (ethos, pathos, logos) by juggling.
<table>
<thead>
<tr>
<th>Theme</th>
<th>Me</th>
<th>My Group</th>
<th>Author</th>
</tr>
</thead>
<tbody>
<tr>
<td>“AQOTWF is not an accusation nor a confession, and least of all an adventure.”</td>
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<td></td>
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<tr>
<td>“War changes people.”</td>
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<td>“War forces people to reject traditional values and civilized behavior.”</td>
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<tr>
<td>“Cruel trainers are the best instructors for soldiers about to go to war.”</td>
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<tr>
<td>“True friendship endures all.”</td>
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<td>“Whole generations are destroyed by war.”</td>
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<tr>
<td>“Nature is indifferent to mankind’s pain and decisions.”</td>
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<tr>
<td>“To no man does the Earth mean so much as to the soldier.”</td>
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<tr>
<td>“Every soldier believes in Chance.”</td>
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</table>
Use and Teach Analogies

- Antonyms
- Synonyms
- Part : Whole
- Whole : Part
- Tool : Its Action
- Tool user : Tool
- Tool: Object It’s Used With
- Category : Example
- Effect : Cause
- Cause : Effect

• Increasing Intensity
• Decreasing Intensity
• Action : Thing Acted Upon
• Action: Subject Performing the Action
• Object or Place: Its User
• Noun : Closely Related Adjective
“The breathing of Benbow’s pit is deafening, like up-close jet engines mixed with a cosmic belch. Each new breath from the volcano heaves the air so violently my ears pop in the changing pressure – then the temperature momentarily soars. Somewhere not too far below, red-hot, pumpkin size globs of ejected lava are flying through the air.”

-- National Geographic, November 2000, p. 54
“A volcano is a vent in the Earth from which molten rock (magma) and gas erupt. The molten rock that erupts from the volcano (lava) forms a hill or mountain around the vent. Lava may flow out as viscous liquid, or it may explode from the vent as solid or liquid particles…”

## T-List or T-Chart: Wilson’s 14 Points

<table>
<thead>
<tr>
<th>Main Ideas</th>
<th>Details/Examples</th>
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<tbody>
<tr>
<td>Reasons President Wilson Designed the Plan for Peace</td>
<td>1.</td>
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<tr>
<td></td>
<td>2.</td>
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<td></td>
<td>3.</td>
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<tr>
<td>Three Immediate Effects on U.S. Allies</td>
<td>1.</td>
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<tr>
<td></td>
<td>2.</td>
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<tr>
<td></td>
<td>3.</td>
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<tr>
<td>Three Structures/Protocols created by the Plans</td>
<td>1.</td>
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<tr>
<td></td>
<td>2.</td>
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<tr>
<td></td>
<td>3</td>
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</tbody>
</table>
# Cornell Note-Taking Format

<table>
<thead>
<tr>
<th>Reduce</th>
<th>Record</th>
</tr>
</thead>
<tbody>
<tr>
<td>[Summarize in short phrases or essential questions next to each block of notes.]</td>
<td>[Write your notes on this side.]</td>
</tr>
</tbody>
</table>

**Review** -- Summarize (paragraph-style) your points or responses to the questions. Reflect and comment on what you learned.
Text Structures
[Taking Notes with Compare/Contrast]

Concept 1

Concept 2
Somebody Wanted But So

[FIction]

Somebody *(characters)*

wanted *(plot-motivation)*, *

but *(conflict)*, *

so *(resolution)*.
Something Happened And Then
[Non-fiction]

Something (*independent variable*)…

happened (*change in that independent variable*)…,

and (*effect on the dependent variable*)…,

then (*conclusion*)….
Narrowing the Topic

The Civil War

People
Battles
Inventions
Reasons
Is the topic narrow enough to be focused, but broad enough to have plenty to write about?
Battles of the Civil War

- Gettysburg
- Manassas
- Antietam
- Vicksburg
Is the topic narrow enough to be focused, but broad enough to have plenty to write about?
Battles of Gettysburg

- Statistics
- Geography
- Famous People
- Strategies
Is the topic narrow enough to be focused, but broad enough to have plenty to write about?
What was the “Fish hook” strategy used at the Battle of Gettysburg?

Yeah. That’s it.
Provide Models

Begin with the end in mind.

Students will outgrow their models.
<table>
<thead>
<tr>
<th>Teacher Action</th>
<th>Result on Student Achievement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Just telling students # correct and incorrect</td>
<td>Negative influence on achievement</td>
</tr>
<tr>
<td>Clarifying the scoring criteria</td>
<td>Increase of 16 percentile points</td>
</tr>
<tr>
<td>Providing explanations as to why their responses are correct or incorrect</td>
<td>Increase of 20 percentile points</td>
</tr>
<tr>
<td>Asking students to continue responding to an assessment until they correctly answer the items</td>
<td>Increase of 20 percentile points</td>
</tr>
<tr>
<td>Graphically portraying student achievement</td>
<td>Increase of 26 percentile points</td>
</tr>
</tbody>
</table>

-- Marzano, CAGTW, pgs 5-6
Getting Students’ Attention

- How much instructional time is lost in the course of school year if you don’t have an effective attention signal?
- Task cards
Attention Signals

- Movement
- Sound
- Rain stick
- Power location
- Speak quietly, requesting an action
- Minimize light blinking
Attention Moves

- Using students’ names
- Proximity
- Redirecting
- Startling
- Pre-alerting
- Prompts
- Humor
- Drama

- Students as assistants
- Vocal inflection
- Unison task
- Argue (Devil’s Advocate)
- Props
- Connect to student’s imagination or life
- Praise
Reading Notations

✓ I agree with this.

X I disagree with this.

?? I don’t understand this.

!! Wow! (‘Elicits a strong emotion)

CL General Claim

EV Evidence for the Claim
(These can be numbered to indicate their sequence, too: EV1, EV2, EV3...)
Interactive Notebooks

- Use Interactive Notebooks: Students record information and skills they learn, then make personal responses to their learning, followed by teachers responding to students’ explorations. The notebook contains everything that is “testable” from the lessons, including handouts, charts, graphics, discussion questions, essays, and drawings. In addition to teachers’ insights into students’ thinking, the notebooks provide students themselves with feedback on their own learning.

*Notebook Know-How* by Aimee Bruckner (2005)  
(www.stenhouse.com) (Pembroke in Canada) 
http://interactivenotebook.jot.com/WikiHome 
www.historyalive.com (from the Teachers' Curriculum Institute) 
http://pages.prodigy.net/wtrucillo/interactive_notebook.htm
3 – Identify three characteristics of Renaissance art that differed from art of the Middle Ages
2 – List two important scientific debates that occurred during the Renaissance
1 – Provide one good reason why “rebirth” is an appropriate term to describe the Renaissance

3 – List three applications for slope, $y$-intercept knowledge in the professional world
2 – Identify two skills students must have in order to determine slope and $y$-intercept from a set of points on a plane
1 – If $(x_1, y_1)$ are the coordinates of a point $W$ in a plane, and $(x_2, y_2)$ are the coordinates of a different point $Y$, then the slope of line $WY$ is what?
Exclusion Brainstorming

The student identifies the word/concept that does not belong with the others, then either orally or in writing explains his reasoning:

- **Mixtures** – plural, separable, dissolves, no formula
- **Compounds** – chemically combined, new properties, has formula, no composition
- **Solutions** – heterogeneous mixture, dissolved particles, saturated and unsaturated, heat increases
- **Suspensions** – clear, no dissolving, settles upon standing, larger than molecules
Save the Last Word for Me

- Students read the passage, making notations as they go.
- They identify three or more sentences to which they have a response.
- Place students in groups of 3 to 5, then ask one member of each group to read a line that he has identified. He reads only; there is no commentary or reason for choosing it given.
- Each group member other than the reading person responds to that one line – agreeing, refuting, supporting, clarifying, commenting, or questioning.
- After everyone else has had a chance to make a personal response to the statement, the originator of the line gets to offer his or her commentary – “getting the last word” on the topic.
- When this round of discussion is done, the next person in the circle calls out his chosen line from the text, and everyone responds to the line before this second person offers his commentary. So it goes with each member of the group.
Synectics
(William J. Gordon)

“The joining together of different and apparently irrelevant elements,” or put more simply, “Making the familiar strange.”

1. Teach a topic to students.
2. Ask students to describe the topic, focusing on descriptive words and critical attributes.
3. Teacher identifies an unrelated category to compare to the descriptions in #2. (Think of a sport that reminds you of these words. Explain why you chose that sport.) Students can choose the category, too.
4. Students write or express the analogy between the two: The endocrine system is like playing zones in basketball. Each player or gland is responsible for his area of the game.
4-Square Synectics

1. Brainstorm four objects from a particular category (examples: kitchen appliances, household items, the circus, forests, shopping malls).

2. In small groups, brainstorm what part of today’s learning is similar in some way to the objects listed.

3. Create four analogies, one for each object.

Example: How is the human digestive system like each household item: sink, old carpet, microwave, broom

Example: How is the Pythagorean Theorem like each musical instrument: piano, drum set, electric guitar, trumpet?
“Word Link”

1. Each student gets a word.
2. In partners, students share the link(s) between their individual words.
3. Partner team joins another partner team, forming a “word cluster.”
4. All four students identify the links among their words and share those links with the class.

In-Out Game: Students determine the classification a teacher’s statements exemplify, then they confirm their hypothesis by offering elements “in the club” and elements “out of the club.” They don’t identify the club, just the items in and out of it. If the students’ suggestions fit the pattern, the teacher invites them to be a part of the club. The game continues until everyone is a member.

Example: She is in the club but the class is not. They are in the club, but the penguins are not. You are in the club, but the donuts are not. Give me something in and out of the club.” A student guesses correctly that the club is for personal pronouns, so she says, “We are in the club, but moon rocks are not.” To make it a bit more complex, announce the club’s elements and non-elements in unusual ways that must also be exemplified by the students, such as making all the items in and out of the club alliterative or related in some way. This can be as obvious or as complex as you want it to be.
SDA - Subtle Difference Analysis

Identify words/concepts that are close in meaning, but not an exact match. Identify how they are similar and what makes them “just off” the match. Example pairs:

- Outstanding/Exemplary
- Confined/Restricted
- Elaborate/Complex
- Intelligent/Smart
- Child/Offspring
- House/Home
- Mature/Wise
- Late/Tardy
- Soil/Dirt
Logical Fallacies

- **Ad Hominem** (Argument To The Man) -- Attacking the person instead of attacking his argument: “Dr. Jones’ conclusions on ocean currents are incorrect because he once plagiarized an research article.”

- **Straw Man** (Fallacy of Extension) -- Attacking an exaggerated version of your opponent's position. "Senator Jones says that we should not fund the attack submarine program. I disagree entirely. I can't understand why he wants to leave us defenseless like that." *

- **The Excluded Middle** (False Dichotomy) -- Assuming there are only two alternatives when in fact there are more. For example, assuming Atheism is the only alternative to Fundamentalism, or being a traitor is the only alternative to being a loud patriot. *

From Jim Morton’s’ “Practical Skeptic” website [http://members.aol.com/jimn469897/skeptic.htm](http://members.aol.com/jimn469897/skeptic.htm)
R.A.F.T.S.

R = Role, A = Audience, F = Form, T = Time/Topic, S = Strong adjective or adverb

Students take on a role, work for a specific audience, use a particular form to express the content, and do it within a time reference, such as pre-Civil War, 2025, or ancient Greece.

Sample assignment chosen by a student:

A candidate for the Green Party (role), trying to convince election board members (audience) to let him be in a national debate with Democrats and the Republicans. The student writes a speech (form) to give to the Board during the Presidential election in 2004 (time). Within this assignment, students use arguments and information from this past election with third party concerns, as well as their knowledge of the election and debate process. Another student could be given a RAFT assignment in the same manner, but this time the student is a member of the election board who has just listened to the first student’s speech.
<table>
<thead>
<tr>
<th>Original Verb</th>
<th>Changed Verb</th>
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<td>Analyze...</td>
<td>Explain...</td>
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<td>Construct...</td>
<td>Revise...</td>
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<td>Recommend...</td>
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</table>
One-Word Summaries

“The new government regulations for the meat-packing industry in the 1920’s could be seen as an opportunity...,”

“Picasso’s work is actually an argument for.....,”

“NASA’s battle with Rockwell industries over the warnings about frozen temperatures and the O-rings on the space shuttle were trench warfare....”

Basic Idea: Argue for or against the word as a good description for the topic.
Inquiry Method

1. **Something arouses students’ curiosity.**

2. **Students identify questions** regarding topic. There is usually one main question with several sub-questions that help answer the main question. These questions are submitted to classmates for review.

3. **Students determine the process of investigation into topic.** Their proposal for how to conduct the investigation is submitted to classmates for review and revision as necessary.

4. **Students conduct the investigation.**

5. **Students share their findings.**
Socratic Seminar

Pre-Seminar:
A. Shared experiences, chosen for richness of ideas, issues, ambiguity, “discussability”
B. Students reflect on material
   Group dynamics, ground rules, and courtesy are understood and accepted.

Seminar:
A. Teacher asks a provocative question. Opening, Core, and Closure Questions
B. Students respond to the provocative question and each other.
C. Teacher offers core questions that help students interpret and to re-direct, also evaluates and tries to keep mouth shut.
C. Closing - connect to the real world of the student

Post-Seminar
   Writings, Summations, Artwork, Reflection, Critique, Analysis
Debate Format

1. **Statement of the General Debate Topic and Why it’s Important** - 1 min.
2. **Affirmative Position Opening Remarks** - 3 min.
3. **Negative Position Opening Remarks** - 3 min.
4. **Affirmative Position Arguments** - 5 min.
5. **Negative Position Arguments** - 5 min.
6. **Caucus** - Students on both teams consider their arguments and rebuttals in light of what has been presented. - 3 min.
7. **Affirmative Rebuttal and Questioning of the Negative’s Case** - 3 min.
8. **Negative Rebuttal and Questioning of the Affirmative’s Case** - 3 min.
9. **Closing Arguments Affirmative Position** - 2 min.
10. **Closing Arguments Negative Position** - 2 min.
Taboo Cards

Photosynthesis

- Light
- Green
- Water
- Sun
- Chlorophyll
- Plant
- Produce
Categorizing Games

Any game in which students categorize items according to identified criteria. No one category can have less than three items. Individuals or teams can compete to be accurate and first.

Examples:

- **Categorize the Greek gods and goddesses three different ways** (domains/powers, relationships, chronological appearance, frailties, uses…)
- **“Word Sorts”**
- **Sort these student essays (products) into “Proficient,” “Good, but in need of improvement,” and “Struggling”**
1. There’s no need to write substitute teacher plans or travel to a conference

2. One of the probable futures of teacher professional development

3. Can be archived

4. Interactive experience with a national presenter who doesn’t need to leave his own home

5. Requires the use of a computer hooked to the Internet

6. A spider’s home tossed like a fisherman would do
Use a human continuum. Place a long strip of masking tape across the middle of the floor, with an "Agree" or “Yes” taped at one end, and "Disagree" or “No” at the other end. Put a notch in the middle for those unwilling to commit to either side. Read statements about the day’s concepts aloud while students literally stand where they believe along the continuum. Be pushy – ask students to defend their positions.
Groups of students line up according to criteria. Each student holds an index card identifying what he or she is portraying.

Students discuss everyone’s position with one another -- posing questions, disagreeing, and explaining rationales.
Line-up

Students can line-up according to:

- chronology, sequences in math problems, components of an essay, equations, sentences, verb tense,
- scientific process/cycle, patterns: alternating, category/example, increasing/decreasing degree,
- chromatic scale, sequence of events, cause/effect, components of a larger topic, opposites, synonyms
Meeting of Minds
at Rachel Carson Middle School
Portrayals of Dr. Sally Ride, Albert Einstein, Josef Stalin, Bob Dylan, Boss Tweed, Dr. Robert Oppenheimer, Senator Joseph McCarthy, the Unsinkable Molly Brown, Rosa Parks. In the background: Advisors for each historical figure
Meeting of Minds

- Students portray historical figures who’ve been called together to discuss modern world issues and complex ideas. This debate is moderated by the teacher.
- Each team of students researches the figure and shares a summary of what they discover with the class prior to the debate.
- Prior to the debate, each team identifies how their figure would probably respond to several the identified modern issues, and what “holes” they can poke in other figures’ responses.
- Each team has 5 - 6 members: 1 performing as the historical figure, 1 – 3 who design a personalized backdrop for the figure during the debate, 1- 3 who design and prepare an accurate costume and props for the figure.
- All team members research and discuss responses, citing evidence for how the group determined the figure’s responses to the issues.
Meeting of Minds

Potential Topics for Discussion:

- Should Earth have one language or many? What are the roles of men and women in society?
- Should students be required to wear uniforms in school?
- What are the qualities of a good leader?
- Should rap music lyrics be censored?
- Should our country have gone to war?
Ropes Course Games
Ropes Course Games

**Electric Fence** (Getting over triangle fence without touching)

**Spider Web** (Pass bodies through “webbing” without ringing the attached bells)

**Group Balance** (2’X2’ platform on which everyone stands and sings a short song)

**Nitro-glycerin Relocation** (previous slide)

**Trust Falls** (circle style or from a chair)
Rummy Games

- ‘Played just like Rummy card games. Instead of a straight such as the four, five, six, seven of spades, however, students get the components of a sequence or set you’ve taught. Examples: steps in photosynthesis, process for dividing fractions, all the elements for a animal’s habitat, four things that led to the Civil War, four equivalent fractions, four verbs in the past perfect tense.

- Students work off a central pile, drawing cards, discarding cards, just as in they would do in a Rummy or Gin Rummy game until they achieve a winning hand.
Simulations

www.teachinteract.com
Dale Seymour Publications
“Education Simulations” on the Net
Examples:
Toothpick bridges, WWI Boot camp,
Mock Trials, Walking through the heart
as blood cells, Ionic/Covalent bond
dance
Statues (Body Sculpture)

Students work in small groups using every groupmember’s body to symbolically portray concepts in frozen tableau.

Where does the learning occur?
Resources for Games

- Mindware:  www.mindwareonline.com (1-800-999-0398)
- Henton, Mary (1996) *Adventure in the Classroom*. Dubuque, Iowa: Kendall Hunt
Motivating Students
When Nothing Else Works

- Teacher Assistance Teams
- Specialists
- Coaches or Pastors/Rabbis
- Alternative Instruction
- Strong relationship with trusted adult
- Diet
- Sleep
- Doctor’s Physical Exam
- Looping
- Deal with poverty issues
Motivating Students When Nothing Else Works (cont.)

- Middle school concept
- Teacher training in young adolescence
- Videotaping
- Behavior checklist
- Use inertia
- Deal with loneliness and/or powerlessness
- Multiple intelligences
- Ask the student
“I was put on earth by God in order to accomplish a certain number of things... right now I am so far behind... I will never die!”

-Calvin and Hobbes