The goal of any teacher is to put himself out of a job. — Oscar Wilde

For further conversation about any of these topics:

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Universal Design for Learning

**Principle I:** Provide Multiple Means of Representation (the “what” of learning), multiple ways for students to perceive and comprehend information

**Principle II:** Provide Multiple Means of Action and Expression (the “how” of learning), multiple ways for students to interact and process content and skills, including how to express what they know

**Principle III:** Provide Multiple Means of Engagement (the “why” of learning), multiple ways to build and sustain motivation and perseverance

- www.udlcenter.org/aboutudl/whatisudl/3principles

“Nobody knows ahead of time how long it takes anyone to learn anything.”

Dr. Yung Tae Kim, “Dr. Tae,”
Physics Professor,
Skateboarding Champion

Fair Isn’t Always Equal
What is Mastery?

“Tim was so learned, that he could name a horse in nine languages; so ignorant, that he bought a cow to ride on.”

Ben Franklin, 1750, Poor Richard’s Almanac

The example of what NOT to do:
oral dictation
spelling tests

“The student understands fact versus opinion.”

Identify
Create
Revise
Manipulate
Working Definition of Mastery
(Wormeli)

Students have mastered content when they demonstrate a thorough understanding as evidenced by doing something substantive with the content beyond merely echoing it. Anyone can repeat information; it’s the masterful student who can break content into its component pieces, explain it and alternative perspectives regarding it cogently to others, and use it purposefully in new situations.

Consider Gradations of Understanding and Performance from Introductory to Sophisticated

Introductory Level Understanding:

Student walks through the classroom door while wearing a heavy coat. Snow is piled on his shoulders, and he exclaims, “Brrrr!” From depiction, we can infer that it is cold outside.

Sophisticated level of understanding:

Ask students to analyze more abstract inferences about government propaganda made by Remarque in his wonderful book, All Quiet on the Western Front.

What is the standard of excellence when it comes to tying a shoe?

Now describe the evaluative criteria for someone who excels beyond the standard of excellence for tying a shoe. What can they do?
Consider Gradations of Understanding and Performance from Introductory to Sophisticated

Introductory Level Understanding:

Student walks through the classroom door while wearing a heavy coat. Snow is piled on his shoulders, and he exclaims, “Brrrr!” From depiction, we can infer that it is cold outside.

Sophisticated level of understanding:

Ask students to analyze more abstract inferences about government propaganda made by Remarque in his wonderful book, All Quiet on the Western Front.

• Determine the surface area of a cube.
• Determine the surface area of a rectangular prism (a rectangular box)
• Determine the amount of wrapping paper needed for another rectangular box, keeping in mind the need to have regular places of overlapping paper so you can tape down the corners neatly
• Determine the amount of paint needed to paint an entire Chicago skyscraper, if one can of paint covers 46 square feet, and without painting the windows, doorways, or external air vents

*Which one qualifies for an “A” in the gradebook?*

There’s a big difference: What are we really trying to assess?

• “Explain the second law of thermodynamics” vs. “Which of the following situations shows the second law of thermodynamics in action?”
• “What is the function of a kidney?” vs. “Suppose we gave a frog a diet that no impurities – fresh organic flies, no pesticides, nothing impure. Would the frog still need a kidney?”
• “Explain Keynes’s economic theory” vs. “Explain today’s downturn in the stock market in light of Keynes’s economic theory.”

From, Teaching the Large College Class, Frank Heppner, 2007, Wiley and Sons
Ways for Students to Transcend Rubric Criteria:

• Demonstrate divergent thinking.
• Add your own voice: If we left your name off the project, would we know it was you that created it?
• Make meaningful connections that the rest of us did not consider.
• Extend your investigation beyond the parameters put forth in the descriptors.

Ways for Students to Transcend Rubric Criteria:

• Make the content your own, not something you borrow from the teacher and return passively at the end of the unit. Let the teacher see what YOU bring to learning’s table. Don’t subordinate who you are for the sake of what a previous generation thought was salient.

And best of all: There are no penalties for giving all of these a try, even when you fail in the first attempts.

• How to Assess Higher-Order Thinking Skills in Your Classroom by Susan M. Brookhart
• From Standards to Rubrics in Six Steps: Tools for Assessing Student Learning by Kathleen (Kay) B. Burke
• Scoring Rubrics in the Classroom: Using Performance Criteria for Assessing and Improving Student Performance by Judith A. Arter and Jay McTighe
• Rubric Nation: Critical Inquiries on the Impact of Rubrics in Education (2015) by Michelle Tenam-Zemach (Editor), Joseph E. Flynn Jr. (Editor)
Essential Questions: Opening Doors to Student Understanding by Jay McTighe and Grant Wiggins
Creating & Recognizing Quality Rubrics by Judith A. Arter, Jan Chappuis
How to Create and Use Rubrics for Formative Assessment and Grading by Susan M. Brookhart
Introduction to Rubrics: An Assessment Tool to Save Grading Time, Convey Effective Feedback, and Promote Student Learning by Dannelle D. Stevens, Antonia J. Levi, Barbara E. Walvoord

Rick Lavoie
From F.A.T. City Workshop: How Difficult Can This Be?

Visual Perception

Tiering
Common Definition -- Adjusting the following to maximize learning:
- Readiness
- Interest
- Learning Profile

Rick’s Preferred Definition:
-- Changing the level of complexity or required readiness of a task or unit of study in order to meet the developmental needs of the students involved (Similar to Tomlinson’s “Ratcheting”).
Tiering Assignments and Assessments

Example -- Graph the solution set of each of the following:

1. \( y > 2 \)
2. \( 6x + 3y \leq 2 \)
3. \( -y < 3x - 7 \)

2. \( 6x + 3y \leq 2 \)
   \( 3y \leq -6x + 2 \)
   \( y \leq -2x + 2/3 \)

Given these two ordered pairs, students would then graph the line and shade above or below it, as warranted.

Tiering Assignments and Assessments

For early readiness students:

• Limit the number of variables for which student must account to one in all problems. ( \( y > 2 \) )
• Limit the inequality symbols to, “greater than” or, “less than,” not, “greater then or equal to” or, “less than or equal to”
• Provide an already set-up 4-quadrant graph on which to graph the inequality
• Suggest some values for \( x \) such that when solving for \( y \), its value is not a fraction.
Tiering Assignments and Assessments

For advanced readiness students:

- Require students to generate the 4-quadrant graph themselves
- Increase the parameters for graphing with equations such as $-1 < y < 6$
- Ask students what happens on the graph when a variable is given in absolute value, such as $|y| > 1$
- Ask students to graph two inequalities and shade or color only the solution set (where the shaded areas overlap)

Primary Reading Example

Track eye movement across the line – Lines presented with lots of space in between each one:

1. Follow pattern of rotating shapes:

   😊😊😊😊😊😊😊зор

2. Follow pattern of alternating letters and similar patterns:

   C F C F F C C F F C C C F F F

3. Follow increasingly complex letter patterns:

   - B B D J D B D B E E R X R E E R X R
   - W N M P O U I P L K G P A B N P Q V T P

4. Repeat with lines closer to together and with smaller fonts, making sure students focus doesn’t stray higher or lower than the line:

   eeilaaabbxrrruuuwwxxxyyyzzziiittoopppqqrrssaaagg
   fff rrr tss ppi uuoo aaooc eooe iiooo ooo000 fff rrrr
   tsp pof pof pof pof lot lot lot lot bat sir ris ris ris ris ris ris ris
   lip pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil pil
5. Track along the line with simple words, adding simple punctuation:

Bob can bark. Bob can bark. Bob can bark.
Rob can purr. Rob can purr. Rob can purr.
Rat wears a hat. Rat wears a hat. Rat wears a hat.

To Increase (or Decrease) a Task's Complexity, Add (or Remove) these Attributes:

- Manipulate information, not just echo it
- Extend the concept to other areas
- Integrate more than one subject or skill
- Increase the number of variables that must be considered; incorporate more facets
- Demonstrate higher level thinking, i.e. Bloom’s Taxonomy, William’s Taxonomy
- Use or apply content/skills in situations not yet experienced
- Make choices among several substantive ones
- Work with advanced resources
- Add an unexpected element to the process or product
- Work independently
- Reframe a topic under a new theme
- Share the backstory to a concept – how it was developed
- Identify misconceptions within something

To Increase (or Decrease) a Task's Complexity, Add (or Remove) these Attributes:

- Identify the bias or prejudice in something
- Negotiate the evaluative criteria
- Deal with ambiguity and multiple meanings or steps
- Use more authentic applications to the real world
- Analyze the action or object
- Argue against something taken for granted or commonly accepted
- Synthesize (bring together) two or more unrelated concepts or objects to create something new
- Critique something against a set of standards
- Work with the ethical side of the subject
- Work in with more abstract concepts and models
- Respond to more open-ended situations
- Increase their automacity with the topic
- Identify big picture patterns or connections
- Defend their work
• Manipulate information, not just echo it:
  – “Once you’ve understood the motivations and viewpoints of the two historical figures, identify how each one would respond to the three ethical issues provided.”

• Extend the concept to other areas:
  – “How does this idea apply to the expansion of the railroads in 1800’s?” or, “How is this portrayed in the Kingdom Protista?”

• Work with advanced resources:
  – “Using the latest schematics of the Space Shuttle flight deck and real interviews with professionals at Jet Propulsion Laboratories in California, prepare a report that…”

• Add an unexpected element to the process or product:
  – “What could prevent meiosis from creating four haploid nuclei (gametes) from a single haploid cell?”

• Reframe a topic under a new theme:
  – “Re-write the scene from the point of view of the antagonist,” “Re-envision the country’s involvement in war in terms of insect behavior,” or, “Re-tell Goldilocks and the Three Bears so that it becomes a cautionary tale about McCarthyism.”

• Synthesize (bring together) two or more unrelated concepts or objects to create something new:
  – “How are grammar conventions like music?”

• Work with the ethical side of the subject:
  – “At what point is the Federal government justified in subordinating an individual’s rights in the pursuit of safeguarding its citizens?”

The Equalizer
(Carol Ann Tomlinson)

Foundational ------------ Transformational
Concrete ---------------- Abstract
Simple ----------------- Complex
Single Facet/fact ------- Multi-Faceted/facts
Smaller Leap ---------- Greater Leap
More Structured --------- More Open
Clearly Defined ---------- Fuzzy Problems
Less Independence ------ Greater Independence
Slower ------------------ Quicker
R.A.F.T.S.

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

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.

R.A.F.T.S.

Raise the complexity: Choose items for each category that are farther away from a natural fit for the topic. Example: When writing about Civil War Reconstruction, choices include a rap artist, a scientist from the future, and Captain Nemo.

Lower the complexity: Choose items for each category that are closer to a natural fit for the topic. Example: When writing about Civil War Reconstruction, choices include a member of the Freedmen’s Bureau, a southern colonel returning home to his burned plantation, and a northern business owner.

Does providing more support mean it’s less rigorous?

On the contrary, providing support for complex, multi-faceted applications is MORE rigorous.
Analyze...  Construct...  
Revise...  Rank...  
Decide between...  Argue against...  
Why did...  Argue for...  
Defend...  Contrast...  
Devise...  Develop...  
Identify...  Plan...  
Classify...  Critique...  
Define...  Rank...  
Compose...  Organize...  
Interpret...  Interview...  
Expand...  Predict...  
Develop...  Categorize...  
Suppose...  Invent...  
Imagine...  Recommend...  

Practice Complex-ifying.  
‘Really.  
‘A lot.  
Practice turning regular education objectives and tasks into advanced objectives and tasks.  

What’s a 4.0?  

What does it mean to exceed expectations?
<table>
<thead>
<tr>
<th>Unit</th>
<th>Enrichment</th>
<th>Extension</th>
<th>Enhancement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percentages</td>
<td>Describe how percentages, decimals, and fractions are used in sports</td>
<td>Describe how statisticians use percentages, decimals, and fractions</td>
<td>Which is more effective to use and when: percentages, decimals, fractions?</td>
</tr>
<tr>
<td>Gravity</td>
<td>Define the various forces of gravity</td>
<td>Show how engineers use gravity to build bridges.</td>
<td>Discuss how gravity is used to improve our daily lives.</td>
</tr>
</tbody>
</table>

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Samples from, Differentiation for Gifted Learners: Going the Basics, 2014, Richard Cash and Diane Heacox, P. 49 and 50

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- He swears he can wake up and be ready to go to school 10 minutes before the bus arrives, and he does – but he forgets to bring three assignments and one permission slip due today, so after he arrives, he calls Mom to see if she can bring those items to school on her way to work, and oh, could she bring some lunch money, too?
• He blurts highly inappropriate comments only to have maturity catch up with the front of his brain seconds later and the blood drains from his face in embarrassment.

• “It’s not cheating to copy others’ homework when I already understand the stuff.”

• “Jumping off a one-story building will work just fine if I have an opened umbrella to slow me down.”

• She makes unsupported claims in an information essay and says she was never told to she had to support them with facts even though the requirement was underlined in her printed directions and you emphasized it with her orally three times.

• She reasons well through tricky word problems last week, but can’t figure out similar ones this week using the same processes.

• When doing a Web search on the speed of light, she gives up when she inputs, “light” in the search box and gets 2,220,000,000 possible websites.

• He Tweets a line in poor taste from a movie, but doesn’t put quotes around it and cite the movie, so friends and family think he said it himself and he is confused when they are upset with him.

• He demonstrates “learned helplessness,” citing very fixable problems for why he can’t start the assignment, such as he doesn’t have a pen, his desk is askew, he doesn’t know which page to use, and he can’t find his folder on the computer.
Executive Function skills:

(Guare, Dawson, Guare, 2013, p. 15-17)

- Response inhibition
- working memory
- emotional control
- flexibility
- sustained attention
- task initiation
- planning/prioritizing
- organization
- time management
- goal-directed persistence
- metacognition

And How Do We Build These Skills in Students?

There's no one strategy that works.

And even more interesting:

The strategies will need to change as the students mature

Exercise daily.

"Aerobic exercise can grease the wheels of executive brain function." "$\ldots$[R]ecent research indicates that exercising students...can expand their working memory...as well as improve their selective attention and their ability to inhibit disruptive impulses. Regular exercise and overall physical fitness have been linked to academic achievement, as well as to success on specific tasks like safely crossing a busy street while talking on a cell phone."

And later, "$\ldots$[E]xercising young adults...post quicker reaction times, give more accurate responses, and are more effective at detecting errors when they engage in fast-paced tasks in the lab."

Video Students.

Video students struggling with EF skills, and in a quiet moment away from other students, sit with them and watch it, asking questions so the student can see and articulate the reality of what he is doing and its impact on his own learning and the learning of those around him.

Provide a compelling visual aide for pretty much everything students have to learn.

Provide students with time-keeping tools with alarms such as watches and timers.

Make Every Goal Transparent.

Provide lots of examples of the final product for every standard, and include almost-examples so they can see the difference. Also, provide students with ample experience critiquing others’ products and attempts at the learning goals. Create their internal editor!

And just as importantly, develop a system to visibly see growth over time, progression toward goals.

Demonstrate how EF skill success leverages students for what they desire in life.

Examples: Help them make a plan for making enough money to purchase something of value. Help them identify what they need to do in order to be a successful group member of group they are seeking.

Help students find a way to improve their sleep patterns.

Sleep deprivation exacerbates executive function issues, and it degrades memory formation and learning, changes personalities, suppresses immune systems, and thwarts resilience.
Record Due Dates at Tops of Assignments (Or Opening Page of File)
Remove clutter and distractions from immediate visual area of student while he works.

Regular Bag Dumps and Clean-outs!
Do a book bag dump and clean out once a week and on the same day of the week. If everything is on an I-Pad, do a folder and file clean-out and confirm the current organization is helping not hindering the student’s success.

Create a successful emotional atmosphere.

- Let students know that they are accepted as fully valued class members.
- Operate as an advocate, not an adversarial “gotcha” taskmaster.
- Know that humiliation for EF shortcomings kills motivation and enflames resentment.
- Let students know EF issues are normal.
- Accept that most everything that enters students’ minds goes to emotional response centers first, cognitive centers later. Don’t take it personally when they laugh at the unlaughable.

Help students experience growing autonomy.

Provide a modified democracy, choice, and control from time to time.

Give students with EF challenges increasing responsibility for lessons and classroom management and the leads in the school play or afterschool clubs.
Announce Upcoming Events and Changes to the regular schedule well in advance, and do it repeatedly. “No surprises. If we are actually going to do a surprise visitor to the classroom, we may need to tell students struggling with EF skills about it ahead of time.

Establish more than one reminder system. Don’t keep it to Post-it notes and alarms on cell phones alone.

Confirm, Reconfirm, and Reconfirm Again.
Do this with directions and evaluative criteria for assignments and assessments, and calendars. Making it ritualistic helps, but the occasional asynchronous confirmation is wise, too.

Cue from Afar.

“Communicate indirectly (Example: note, text message) The idea is to create distance between you and your teen so that the cue can work without the two of you being in the same space at the same time.”

— P. 144, Guare, Dawson, Guare, 2013

Analyze, Break Down Tasks.

Break larger tasks down into smaller chunks and as Atul Gawande wisely taught us (The Checklist Manifesto: How to Get Things Right, 2011); it’s particularly effective to put these task analyses in a checklist.

Practice breaking down tasks: preparing a bibliography, doing an Internet search, washing a P.E. uniform, getting himself ready for musical, athletic, or theatrical performance.
Analyze, Break Down Tasks - Example: Homework

- Ten minutes before the end of class, confirm assignment with the teacher.
- Write it in Daily Planner.
- List everything I need to bring home in order to do the assignment.
- Get every item on that list, cross off each one as I do.
- Re-explain the assignment's directions to someone in my family and confirm that I have it right. If confused, check with the class Website.
- Do assignment in room at home without distractions.
- Half way through the assignment, check with someone that I'm doing it correctly.
- Finish the assignment.
- Put it in my book bag.
- Put book bag on table near the front door.

Recommended Resources:

- *Smart but Scattered: The Revolutionary “Executive Skills” Approach to Helping Kids Reach Their Potential* by Peg Dawson and Richard Guare
- *Smart but Scattered Teens: The “Executive Skills” Program for Helping Teens Reach Their Potential* by Richard Guare, Peg Dawson, and Colin Guare
- *Late, Lost, and Unprepared: A Parents’ Guide to Helping Children with Executive Functioning* by Joyce Cooper-Kahn and Laurie Dietzel
- *Promoting Executive Function in the Classroom (What Works for Special-Needs Learners)* by Lynn Meltzer
- The National Center for Learning Disabilities (www.ncld.org)
- “Worth a Closer Look: Executive Function,” Rick Wormeli, *Middle Ground* magazine (Now, AMLE Magazine), August 2013, Association for Middle Level Education

Recommended Resources for ADHD information:

- The Attention Deficit Disorder Association (www.add.org)
- http://www.helpguide.org/mental/adhd_add_signs_symptoms.htm
- National Resource Center on ADHD (http://www.help4adhd.org/), which includes resources for the organization, CHADD (Children and Adults with Attention-Deficit/Hyperactivity Disorder)
Identify how your lessons and interactions reflect expertise with the unique nature of the students you serve.

Remember, they're 12 years old first, gifted second.

Example:
The Unique Nature of Young Adolescents

- Physical activity
- Creative expression
- Positive social interactions
- Structure and clear limits
- Achievement and competence
- Opportunities to define who they are
- Connection to adults and community

Principles for Teaching Advanced Students

- No matter what readiness level, we teach essential and enduring knowledge first or at least at the same time as advanced standards.
- The teacher doesn’t have to know it all. He has to facilitate the learning.
- Advanced experiences illuminate more material during the course of the year, whether by moving more rapidly, by exploring concepts in greater depth, or by offering more breadth in the field of study.
In advanced experiences, tangential thinking is invited. Subjects are integrated to a larger extent. Advanced students often think academic struggle is a weakness, something to avoid. We teach otherwise. Challenge and struggle are academically virtuous. Enrichment does not equal fluff. All activities are substantive. Advanced students usually have longer attention spans.

With advanced students, we affirm effort and perseverance, not how intelligent or capable they are. They can be impatient. Advanced students tend to appreciate the teacher’s use of humor more than other students do. We don’t require as much practice, moving students quickly into experimentation phase. We affirm and use shared leadership in the classroom. Textbooks and novels are resources, not the curriculum. Primary sources in research are more heavily valued.

In general, advanced students do not like whole novels to be read to them. Excerpts are fine.

- Advanced experiences expose students to a larger variety of language and literature.
- Non-traditional grammar, sentence structures, vocabulary words and writer’s voice are encouraged. Students have a large vocabulary and they use it.
- Assessment is more authentic and alternative assessment is more likely to occur in advanced experiences.
- Advanced students respond well to increased autonomy.
We intentionally provoke thinking and confront the status quo and invite students to do the same.

There can often be a wider range of readiness levels in a classroom of advanced students than there is in a classroom of general education students.

Advanced experiences will have some unique opportunities: Socratic Seminars, debates, working directly with experts in the field, integrating subjects.

### 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

3. Negative Position Opening Remarks – 3 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.
10. Closing Arguments Negative Position – 2 min.

Meeting of Minds
at Rachel Carson Middle School
Portrayals of Dr. Sally Ride, Albert Einstein, Josef Stalin, Bob Dylan, Bios Tweed, Dr. Robert Oppenheimer, Senator Joseph McCarthy, the Unsinkable Molly Brown, Rosa Parks.

- We still make the implicit, explicit and not assume anything.
- We compact the curriculum for advanced students as warranted.
- Advanced students often perceive subtlety and nuance. We notice it, too.
- Advanced students embrace complexity, often transcending simplistic or binary responses.
- Advanced students can often lose track of time, space, and people; they easily enter, “Flow.”
Advanced students are often quite good at switch-tasking. Independent studies (orbitals), adjusted prompts, and learning contracts work. Advanced students appreciate patterns and connections and rarely leave content to its individual pieces. Integration with fine and performing arts works well with advanced students, even with those not advanced in those arts.

For Gifted/Advanced Students:

➢ Use respectful tasks.
➢ Use tiered lessons
➢ Compact the curriculum.
➢ Plan accordingly: They get ideas and make connections quickly.

Advanced Thinkers…

■ Concede ignorance when they are ignorant.
■ Find out what’s going on.
■ Respect intellectuals and don’t deride them.
■ Speak out after doing their homework.
■ Examine superstitions.
■ Play thinking games and amuse themselves by trying to answer puzzle questions.
■ Become more informed about history than they are.
Advanced Thinkers...

- Aren’t afraid to change their minds.
- Are aware that their opinions, assumptions, and beliefs are often affected by peer-group pressure.
- Are realistically skeptical – even of leaders.
- Recognize that they have personal prejudices.
- Do not fall in love with their first answers.

[from Steve Allen’s book, Dumbth: The Lost Art of Thinking: with 101 Ways to Reason Better and Improve your Mind (Prometheus Books)]

“Little Geniuses”
(Article by Thomas Armstrong about alternative giftedness).
http://www.thomasarmstrong.com/articles/geniuses.htm

- Acting Ability
- Adventuromadness
- Aesthetic perceptiveness
- Artistic Talent
- Athletic prowess
- Common sense
- Compassion
- Courage
- Creativity
- Emotional maturity
- Excellent memory
- Imagination
- Inquiring mind
- Intuition
- Inventiveness
- Knowledge of a given subject
- Leadership abilities
- Literary aptitude
- Logical-reasoning ability
- Manual dexterity
- Mathematical ability
- Mechanical know-how
- Moral character
- Musically
- Passionate interest in a specific topic
- Patience
- Persistence
- Physical coordination
- Political astuteness
- Problem-solving capacity
- Reflectiveness
- Resourcefulness
- Self-discipline
- Sense of humor
- Social savvy
- Spatial awareness
- Spiritual sensibility
- Strong will
- Verbal ability

Re-do’s
and Re-Takes
The testimony for a grade and a teacher is what students carry forward when they are done with us, NOT what they demonstrated while immersed in the unit of the study.

The greatest preparations for the next year of learning are maturation and real competence. The alternatives, incompetence and immaturity, are never considered positive legacies for a teacher or a school.

It's what students carry forward, not what they demonstrated during the unit of learning, that is most indicative of true proficiency.

<table>
<thead>
<tr>
<th>Type of Feedback</th>
<th>Impact on Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scores Alone</td>
<td>Ineffective: Students were complacent, unmotivated</td>
</tr>
<tr>
<td>Score with Comments</td>
<td>Ineffective: Students focused only on judgement of scores, how they did in comparison to others, didn't internalize or use comments</td>
</tr>
<tr>
<td>Comments Alone</td>
<td>Effective: Students in this group demonstrated the most improvement and learning</td>
</tr>
</tbody>
</table>

-- Ruth Butler (1988, as cited in William 2011), from Arthur Chiaravalli (@hhschiaravalli)

“Teachers Going Gradeless: Toward a Future of Growth Not Grades”
Recording a judgement symbol, i.e. a percent, rubric number, or letter grade, on student work is a clear message to the student: **Learning is done.**

“...John Hattie (2012) whose synthesis of 800 meta-studies showed that student self-assessment/self-grading topped the list of educational interventions with the highest effect size. By teaching students how to accurately self-assess based on clear criteria, teachers empower them to become “self-regulated learners” able to monitor, regulate, and guide their own learning. The reason students never develop these traits is that our monopoly on assessment, feedback, and grading has trained students to adopt an attitude of total passivity in the learning process.”

-- Arthur Chiavaralli (@hhschiavaralli) “Teachers Going Gradeless: Toward a Future of Growth Not Grades”

We can learn without grades, but we can’t learn without descriptive feedback.
Two Questions to Ask Students:
• What are you supposed to be learning?
• Where are you in relation to that goal?

Feedback vs Assessment

Feedback: Holding up a mirror to students, showing them what they did and comparing it what they should have done – There’s no evaluative component!

Assessment: Gathering data so we can make a decision

Greatest Impact on Student Success:
Formative feedback

Two Ways to Begin Using Descriptive Feedback:

• “Point and Describe”
  (from Teaching with Love & Logic, Jim Fay, David Funk)

• “Goal, Status, and Plan for the Goal”

  1. Identify the objective/goal/standard/outcome
  2. Identify where the student is in relation to the goal (Status)
  3. Identify what needs to happen in order to close the gap
When providing descriptive feedback that builds perseverance,

...comment on decisions made and their impact, NOT quality of work.

Highlighting Mistakes: A Grading Strategy
(Youtube.com)

Effective Protocol for Data Analysis and Descriptive Feedback found in many Schools:
Here's What, So What, Now What

1. Here's What: (data, factual statements, no commentary)

2. So What: (Interpretation of data, what patterns/insights do we perceive, what does the data say to us?)

3. Now What: (Plan of action, including new questions, next steps)
<table>
<thead>
<tr>
<th>Item</th>
<th>Topic or Proficiency</th>
<th>Right</th>
<th>Wrong</th>
<th>Simple Mistake?</th>
<th>Really Don’t Understand</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Dividing Fractions</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Dividing Fractions</td>
<td>✓</td>
<td>✓</td>
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<tr>
<td>3</td>
<td>Multiplying Fractions</td>
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<td>✓</td>
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</tr>
<tr>
<td>4</td>
<td>Multiplying fractions</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Reducing to Simplest terms</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Reciprocals</td>
<td>✓</td>
<td>✓</td>
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<tr>
<td>7</td>
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<tr>
<td>9</td>
<td>Reciprocals</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Date

Mr./Mrs./Miss ________________________,

I understand: ________________________

I need assistance: ____________________

I suggestion the following four steps for me to take in order to learn these content and skills:

Sincerely,

_______________________

Teacher Action | Result on Student Achievement
---|---
Just telling students # correct and incorrect | Negative influence on achievement
Clarifying the scoring criteria | Increase of 16 percentile points
Providing explanations as to why their responses are correct or incorrect | Increase of 20 percentile points
Asking students to continue responding to an assessment until they correctly answer the items | Increase of 20 percentile points
Graphically portraying student achievement | Increase of 26 percentile points

-- Marzano, CAGTW, pgs 5-6
A child is attempting to ride a bicycle, and the bike falls over. Another child, learning to walk, loses her balance and lands on her bottom. A baby’s green peas slide off his spoon as he moves it toward his mouth. How do their parents respond? Good parents don’t say, “You fail, you’re not able to meet bicycling standards,” “I’ll develop a rubric for walking without falling,” or, “We need a Common Core curriculum to help you keep your food in your spoon.” …[They] simply say, “Try again.”


Re-do’s are far more demanding than recording unrecoverable F’s and O’s.

Students should be allowed to re-do assessments until they achieve acceptable mastery, and they should be given full credit for having achieved such.
Perspective that Changes our Thinking:

A ‘D’ is a coward’s ‘F.’ The student failed, but you didn’t have enough guts to tell him.”

-- Doug Reeves

“No research supports the idea that low grades prompt students to try harder. More often, low grades prompt students to withdraw from learning. To protect their self-images, many students regard the low grade as irrelevant or meaningless. Others may blame themselves for the low grade but feel helpless to improve (Selby & Murphy, 1992).”

= Tom Guskey, “Five Obstacles to Grading Reform,” Education Leadership, ASCD, November 2011

• A
• B
• C
• I, IP, NE, or NTY

Once we cross over into D and F(E) zones, does it really matter? We’ll do the same two things: Personally investigate and take corrective action
If we do not allow students to re-do work, we deny the growth mindset so vital to student maturation, and we are declaring to the student:

• This assignment had no legitimate educational value.
• It’s okay if you don’t do this work.
• It’s okay if you don’t learn this content or skill.

*None of these is acceptable to the highly accomplished, professional educator.*

**Grading Late Work**

• One whole letter grade down for each day late is punitive. It does not teach students, and it removes hope.
• A few points off for each day late is instructive; there’s hope.
• Yes, the world beyond school is like this.

**Helpful Consideration for Dealing with Student’s Late Work:**

**Is it chronic....**

...or is it **occasional**?

*We respond differently, depending on which one it is.*
Recovering in full from a failure teaches more than being labeled for failure ever could teach.

It’s a false assumption that giving a student an “F” or wagging an admonishing finger from afar builds moral fiber, self-discipline, competence, and integrity.

Re-Do’s & Re-Takes: Are They Okay?

More than “okay!” After 10,000 tries, here’s a working light bulb. ‘Any questions?'

Thomas Edison
Quotes for the Classroom, Mindsets for Teaching:

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

“I have learned throughout my life as a composer chiefly through my mistakes and pursuits of false assumptions, not my exposure to founts of wisdom and knowledge.”
-- Igor Stravinsky

“An expert is a man who has made all the mistakes which can be made, in a narrow field.”
-- Niels Bohr

F.A.I.L.

First Attempt in Learning

From Youtube.com:

Dr. Tae Skateboarding
(Ted Talk)

http://www.youtube.com/watch?v=lHfo17ikSpY
Helpful Procedures and Policies
for Re-Do’s and Re-Takes

• Always, “…at teacher discretion.”

• Don’t hide behind the factory model of schooling that perpetuates curriculum by age, perfect mastery on everyone’s part by a particular calendar date.

• As appropriate, students write letters explaining what was different between the first and subsequent attempts, and what they learned about themselves as learners.

• Re-do’s and re-takes must be within reason, and teachers decide what’s reasonable.

• Identify a day by which time this will be accomplished or the grade is permanent, which, of course, may be adjusted at any point by the teacher.

• With the student, create a calendar of completion that will help them accomplish the re-do. If student doesn’t follow through on the learning plan, he writes letters of apology. There must be re-learning, or learning for the first time, before the re-assessing.

• Require the student to submit original version with the re-done version so you and he can keep track of his development.

• If a student is repeatedly asking for re-doing work, something’s up. Investigate your approach and the child’s situation.

• C, B, and B+ students get to re-do just as much as D and F students do. Do not stand in the way of a child seeking excellence.

• If report cards are due and there’s not time to re-teach before re-assessing, record the lower grade, then work with the student in the next marking period, and if he presents new evidence of proficiency, submit a grade-change report form, changing the grade on the transcript from the previous marking period.

• Reserve the right to give alternative versions and ask follow-up questions to see if they’ve really mastered the material.

• Require parents to sign the original attempt.
• It’s okay to let students, “bank,” sections of the assessment/assignment that are done well.

• No-re-do’s the last week of the grading period.

• Replace the previous grade with the new one, do NOT average them together.

• Sometimes the greater gift is to deny the option.

• Choose your battles. Push for re-doing the material that is transformative, leveraging, fundamental.

I used to think..., but now I think...

‘Just released in 2017!

‘Highly recommended – And the Foreword is unusually well written! :-}
‘Highly recommended new book, worthy of a book study – One of the most impactful books on teaching I’ve read in years.

Larry Ferlazzo

Helping Students Motivate Themselves: Practical Answers to Classroom Challenges

Practical, Creative, Real….

Self-Driven Learning

Teaching Strategies for Student Motivation

Building a Community of SELF-MOTIVATED LEARNERS

Strategies to Help Students Thrive in School and Beyond
Motivation Matters
September 2014 | Volume 72 | Number 1
www.ascd.org

ASCD’s Education Leadership
“Emotionally Healthy Kids”
October 2015 | Volume 73 | Number 2
www.ascd.org
Become well read in differentiation.

Fantastic books!

Richard Cash

David Sousa
Carol Ann Tomlinson
Great Resources to Further your Thinking and Repertoire

• Burke, Kay. *What to Do With the Kid Who... Developing Cooperation, Self-Discipline, and Responsibility in the Classroom*, Skylight Professional Development, 2003
• Forsten, Char; Grant, Jim; Hollas, Betty. *Differentiated Instruction: Different Strategies for Different Learners*, Crystal Springs Books, 2001
• Forsten, Char; Grant, Jim; Hollas, Betty. *Differentiating Textbooks: Strategies to Improve Student Comprehension and Motivation*, Crystal Springs Books
• Levine, Mel. *All Kinds of Minds*
• Levine, Mel. *The Myth of Laziness*
• Marzano, Robert J. *A Different Kind of Classroom: Teaching with Dimensions of Learning*, ASCD, 1992
• Marzano, Robert J.; Pickering, Debra J.; Pollock, Jane E. *Classroom Instruction that Works: Research-based Strategies for Increasing Student Achievement*, ASCD, 2001
• Rogers, Spence; Ludington, Jim; Graham, Shari. *Motivation & Learning: Practical Teaching Tips for Block Schedules, Brain-Based Learning, Multiple Intelligences, Improved Student Motivation, Increased Achievement*, Peak Learning Systems, Evergreen, CO. 1998, To order, call: 303-679-9780
• Rutherford, Paula. *Instruction for All Students*, Just ASK Publications, Inc (703) 533-5402, 1998
• Sprenger, Marilee. *How to Teach Six Students Remember*, ASCD, 2005
• Sternberg, Robert J.; Grigorenko, Elena L. *Teaching for Successful Intelligence: To Increase Student Learning and Achievement*, Skylight Training and Publishing, 2001
• Strong, Richard W.; Silver, Harvey F.; Perini, Matthew J.; Tuculescu, Gregory M. *Reading for Academic Success: Powerful Strategies for Struggling, Average, and Advanced Readers, Grades 7-12*, Corwin Press, 2002
• Tomlinson, Carol Ann. -- Fulfilling the Promise of the Differentiated Classroom, ASCD, 2003
  How to Differentiate Instruction in Mixed-Ability Classrooms, ASCD, 1995
  The Differentiated Classroom: Responding to the Needs of All Learners, ASCD, 1999
  At Work in the Differentiated Classroom (VIDEO), ASCD, 2001
  Differentiation in Practice: A Resource Guide for Differentiating Curriculum, Grades 5-9, ASCD, 2003 (There’s one for K-5 and 9-12 as well)
  Integrating, with Jay McTighe, 2006, ASCD (This combines UBD and DI)
• Tovani, Cris. I Read It, But I Don’t Get It. Stenhouse Publishers, 2001
• Wolfe, Patricia. Brain Matters: Translating Research into Classroom Practice, ASCD, 2001
• Wormeli, Rick. Differentiation: From Planning to Practice, Grades 6-12, Stenhouse Publishers, 2007
• Wormeli, Rick. Fair Isn’t Always Equal: Assessment and Grading in the Differentiated Classroom, Stenhouse 2006
• Wormeli, Rick. Summarization in Any Subject, ASCD, 2005
• Wormeli, Rick. Day One and Beyond, Stenhouse Publishers, 2003
• Wormeli, Rick. Meet Me in the Middle, Stenhouse Publishers, 2001

Eleven years in the making -- Here it comes!
Fair Isn’t Always Equal, Second Edition


Particularly Compelling Websites with Research on SBG:

http://tguskey.com/articles/

http://mtownsley.net/standards-based-grading/
Great Books on Feedback, Assessment, and Grading:

- *Grading from the Inside Out* (Schimmer)
- *Hacking Assessment* (Sackstein)
- *Elements of Grading* (Reeves)
- *How to Give Feedback to Your Students* (Brookhart)
- *Balanced Assessment, From Formative to Summative* (Burke)
- *Grading Smarter, Not Harder* (Dueck)
- *Grading* (Brookhart)
- *How to Grade for Learning* (O'Connor)
- *A Repair Kit for Grading: 15 Fixes for Broken Grades* (O'Connor)
- *Fair Isn’t Always Equal* (Wormeli)

- *Checking for Understanding: Formative Assessment Techniques for your Classroom* (Fisher and Frey)
- *Transforming Classroom Grading* (Marzano)
- *Classroom Assessment and Grading that Work* (Marzano)
- *How to Assess Higher-Order Thinking Skills in your Classroom* (Brookhart)
- *Grading Exceptional and Struggling Students: RTI, ELL, IEP* (Guskey, Jung)
- *On Your Mark: Challenging the Conventions of Grading and Reporting* (Guskey)
Three particularly helpful books I just read and I highly recommend:


• Brookhart, Susan. *How to Assess Higher-Order Thinking Skills in your Classroom*, ASCD, 2010

• *Alternatives to Grading Student Writing*, Stephen Tchudi, Editor, NCTE, 1997