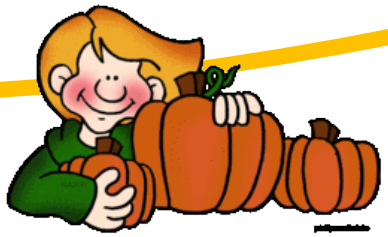
Dennis-Yarmouth RSD

Instruction Office Newsletter



October 2015
Volume 3, Issue 2

Perceptive Supervision of Science Classes

"Identifying good science instruction during classroom observations isn't the same as identifying good practices for English or social studies," say Todd Hutner and Victor Sampson (University of Texas/Austin) in this *Kappan* article. With the shift embodied in two recent curriculum documents – *Next Generation Science Standards* and *A Framework for K-12 Science Education* – Hutner and Sampson believe supervisors need to focus on five key elements. "Principals don't need to see evidence of the five indicators every day," they say. "But over the course of a school year, they should see a preponderance of evidence showing the presence of these indicators:

- **Motivation** Beyond writing the objective on the board, the teacher must provide a structure that creates a need to learn.

❖ *Things to look for during classroom visits:*

- Is there a challenge students need to solve or a question they must answer?
- Was there a discrepant or puzzling event?
- Do students have a choice in what they're doing?
- Does the content relate to students' experiences inside and outside school?

✓ *Questions to ask students:*

- Why are you doing this assignment?
- What do you hope to accomplish?

Continued on page 2

Important Dates to Remember

October 8:	**District Professional Development** **No School**
October 9:	**District Professional Development** **No School**
October 12:	**Columbus Day Holiday**
November 1:	**Daylight Savings Time Ends**
November 3:	**PreK-5Parent/Teacher Conferences** **6-12 Professional Development**
November 5:	**PreK-5Parent/Teacher Conferences** **6-12 Professional Development**

Important Notice:

Central office is a **fragrance-free zone** so please be respectful and plan accordingly when you visit.

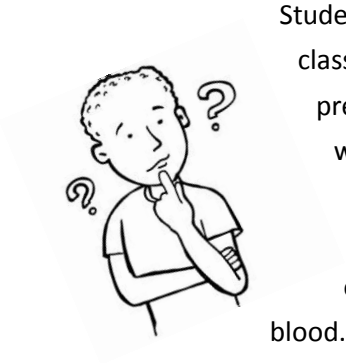
Due to one of our members at the CO being highly sensitive to any type of fragrance, we ask that staff visiting/meeting at the Administration building refrain from using any scented products. Fragrances from personal care products, air fresheners, laundry and other cleaning products have been associated with adversely affecting a person's health. We ask that we all work together to make the environment a safe and healthy workplace for everyone. Thank you very much for your cooperation!

- Is this interesting?
- How often are you interested in what you're doing in class?

➢ Questions for teachers:

How do you motivate students? How do you make it relevant to them?

- **Students' thinking is made visible**



Students enter science classrooms with lots of preconceptions, some of which are wrong – for example, heavy objects fall more quickly than light objects or the heart makes blood. Students' ideas need to be surfaced and discussed before they can begin to understand the theories, laws, and models of science.

❖ Things to look for during classroom visits:

- Did students make a prediction or state a hypothesis?
- Are students representing science content?
- Are students explaining their thinking orally or in writing?

✓ Questions to ask students:

- How often does your teacher ask you to explain your thinking?
- How often do you need to give a reason for your answer?

➢ Questions for teachers:

- How do you know what students are thinking?
- How do you decide when to move on?

- **ABC – activity before content** Students need to explore a natural phenomenon before being formally presented with scientific facts, formulas, theories, or other content, say Hutner and Sampson. In other words, the beginning of a unit is often the best time to do a lab.

❖ Things to look for during classroom visits:

- Are students collecting, analyzing, or displaying data?
- Did students make a prediction or state a hypothesis?

✓ Questions to ask students:

- Has your teacher explained this to you before?
- Do you know what's supposed to happen, or what the result will be?
- How often do you do this type of activity?

➢ Questions for teachers:

- When did you do the lab?
- Did students know what was going to happen during the lab?
- When did you introduce vocabulary?

- **Students engage in scientific practices as they learn content.** They're asking scientific questions, planning and carrying out investigations, analyzing and interpreting data, engaging in argument from evidence, and obtaining, evaluating, and communicating information.

❖ Things to look for during classroom visits:

- Did students plan investigations?
- Did students analyze data?
- Did students share their findings with others?
- Did students justify their claims using data?

✓ Questions to ask students:

- How often does your teacher have you design your own investigation?
  - How often do you agree or disagree with anything other students are saying? Why?
- What happens if students disagree?

➢ Questions for teachers:

- How do you determine procedures for labs and ways to analyze data?

- What happens if students disagree about the results of an investigation?

• *Students actively negotiate meaning*

Rather than being passive recipients of teachers' lectures or demonstrations, students take charge of processing content and get involved in presenting it in meaningful ways – for example, analyzing alternative fuel sources or writing a letter to an elected official advocating for the adoption of a specific type of energy.

❖ *Things to look for during classroom visits:*

- Who is engaged in discourse during the class?
- Are students actively thinking about science content?
- Is the teacher asking questions to scaffold student thinking?

✓ *Questions to ask students:*

- How did you justify your thinking?
- What types of work do you do when you're in groups?

➢ *Questions for teachers:*

- How do you ensure students are thinking deeply about science content?
- What kinds of questions do you ask students? What types of answers do you expect?

"New Ways of Teaching and Observing Science Class" by Todd Hutner and Victor Sampson in *Phi Delta Kappan*, May 2015 (Vol. 96, #8, p. 52-56), www.kappanmagazine.org; Hutner can be reached at thutner@gmail.com.

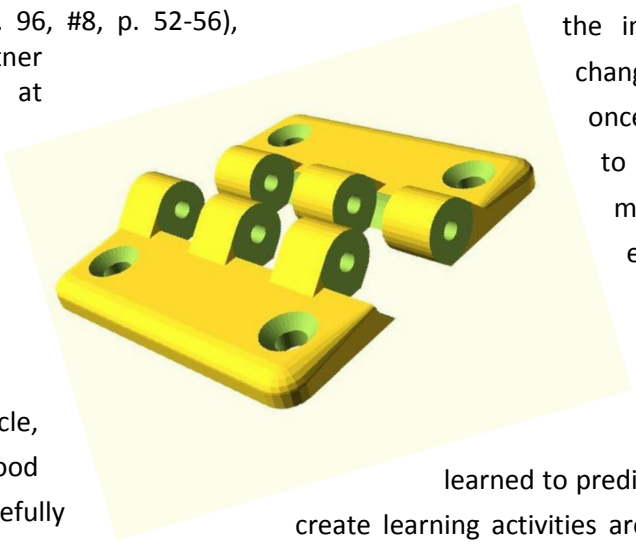
Well-Chosen "Hinge Questions" to Check for Student Understanding

In this *Improving Teaching* article, history teacher Harry Fletcher-Wood explains the "hinge question" – a carefully crafted check for understanding mid-way through a lesson to see if students grasp the central concept, need to have it briefly clarified, or need the teacher to start all over again. The four key characteristics of good hinge questions, according to British researcher Dylan Wiliam, are:

- **They're concise: students can respond in under two minutes.**
- **The question is worded so that students can't get the right answer for the wrong reasons; common errors and misconceptions are made visible.**
- **The teacher can see responses from every student by using mini-whiteboards, Plickers, clickers, or some other form of all-class response system.**
- **The teacher can assess the responses and decide what to do in under 30 seconds.**

What were Fletcher-Wood's reactions when he started using these in his classes? "Hinge questions have transformed my teaching," he says. "Firstly, and most dramatically, I learned far more about the errors students were making… Had I not 'sought error' in this way, I would not have been aware of these understandable misconceptions, nor would I have been able to correct them.

"Secondly, it slowed teaching dramatically – indeed, a handful of lessons were brought almost to a standstill as I kept trying to talk through student misconceptions. This risked disengaging… and reinforces the importance of only trying to change two or three things at once… Additionally, they allow me to discuss and correct student misconceptions in a safe environment for students to make mistakes – because almost all of them will make mistakes at some point.



"With more experience, I learned to predict student misconceptions and create learning activities around them, to know when to move on with the group and help individuals later, and,

most powerfully, to activate students to explain to each other or debate with each other and work towards a conclusion. At the simplest level, it involves breaking down questions into sub-questions, enabling students to isolate the characteristics of individual lessons."

Here are some examples of hinge questions from different subject areas, with students using mini-whiteboards to display their answers:

• In a math lesson on unlike denominators: *What is a fraction between 1/6 and 1/7?*

• In a solar system lesson: *How long does it take the Earth to travel around the Sun? To spin once on its axis?*

• In a climate lesson: *Why is the Earth colder in areas further away from the equator?*

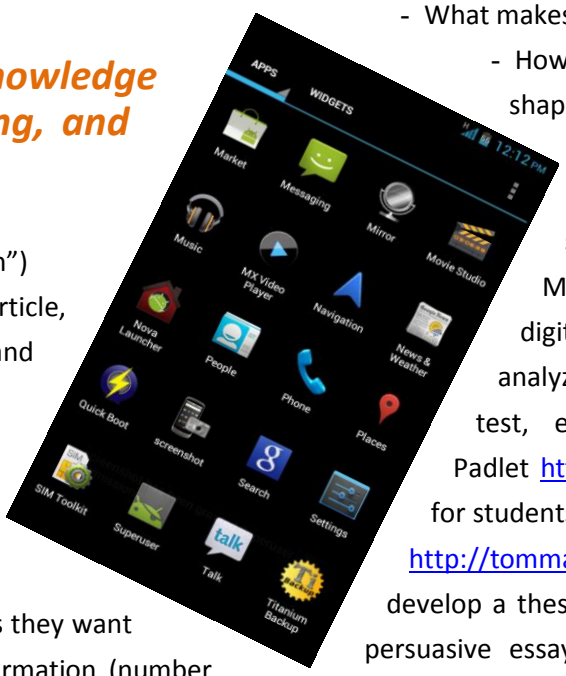
- The Earth orbits the Sun.
- The Earth orbits the Sun at an angle.
- The Earth is a sphere.
- The Earth has a hot core.

- "Do They Understand This Well Enough to Move On? Introducing Hinge Questions" by Harry Fletcher-Wood in *Improving Teaching*, August 17, 2013, http://bit.ly/1bKxc89

Apps to Promote Knowledge Acquisition, Making Meaning, and Transfer

(Originally titled "Choosing Apps by Design")

In this *Educational Leadership* article, author/consultant Jay McTighe and consultant/ tech developer Tom March suggest that the best way to choose classroom apps is to focus on three distinct yet interrelated goals:

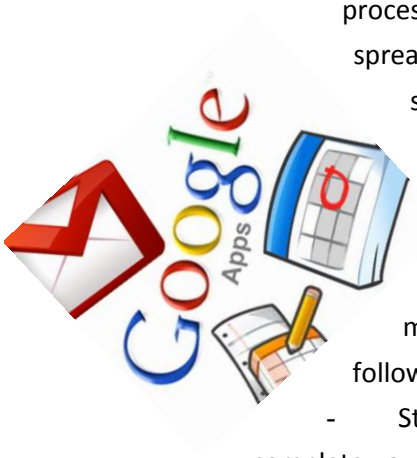


- ***Acquisition*** – Here teachers identify the knowledge and skills they want students to use and learn – factual information (number facts, vocabulary), basic concepts (vertebrate vs. invertebrate), and skills (drawing a picture, dribbling a basketball). McTighe and March have two "gentle reminders": first, knowledge acquisition isn't an end in itself, but a means to meaning-making and transfer. Second, think beyond getting access to information and look for tools that support selecting, organizing, evaluating, and managing it. They suggest two digital tools to promote this goal: news feeds that funnel new content generated by blogs, podcasts, and video channels; and collaborative knowledge management tools like social bookmarking to immediately share information with others. Two school-friendly apps are Diigo www.diigo.com and Evernote https://evernote.com. "Whereas students might once have spent a class period individually surfing the Web and noting a few potentially helpful websites," say McTighe and March, "now they act as research team members who collaboratively collect, analyze, and annotate the relevant information they intend to use."

- ***Making meaning*** – Students need to focus on the big ideas by addressing well-framed Essential Questions such as:
  - How do we know what to believe about scientific claims?
  - What makes writing worth reading?
  - How do the arts reflect, as well as shape, a culture?
  - What do effective problem-solvers do when they get stuck?

McTighe and March suggest several digital tools that help students analyze, interpret, generalize, question, test, evaluate, and synthesize ideas: Padlet http://padlet.com is a shared space for students to brainstorm, and Thesis Builder http://tommarch.com/electraguide helps them develop a thesis statement and an outline for a persuasive essay. These tools are most helpful when students have become adept at basic information management and have developed a healthy disposition toward inquiry. Students might then use free

productivity tools at Google Apps for Education www.google.com/enterprise/apps/education - word processing, presentation, spreadsheet, and graphics software – to construct knowledge and communicate ideas. A high-school American literature teacher might orchestrate the following:



- Students work in teams to complete a teacher-designed online form.
- Each team answers questions about the attitudes of authors from specific movements in American literature toward nature, mankind, government, and the American Dream.
- As teams submit their forms, the information goes to a spreadsheet that organizes insights chronologically by era.
- That night, students analyze the collaborative spreadsheet, add comments, and engage in a chat session to come up with individual thesis statements that explain their interpretation of how American attitudes evolved over time as illustrated by literature.
- The following day, students post and review one another's thesis statements through shared documents.
- Students publish their understandings in a composite slide presentation.

"Thus," say McTighe and March, "as students are introduced to, use, and choose from this suite of tools, they are empowered with the skills to tackle authentic tasks, collaboratively construct meaning, and communicate their understandings."

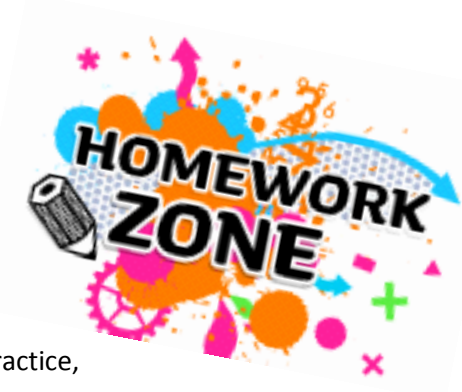
- ***Transfer*** – The three key goals here are (a) long-term retention; (b) being able to apply learning in new situations; and (c) being able to perform independently – all of which is at the heart of college and career readiness.

"[I]n the world beyond K-12 classrooms, no professor or boss is likely to hold your hand and direct your every action," say McTighe and March. They suggest ClassPortals http://tommarch.com/strategies/classportals, a Web tool that allows students and teachers to work together to create and publish content around a topic they're passionate about – for example, child slavery, natural disasters, people power revolutions, emerging technologies, tracking climate change, and fit for life. "An online presence provides an excellent platform for demonstrating transfer," say the authors. "Students can publish their latest thinking and creations for a global audience and receive feedback in the form of comments; they often find themselves participating in authentic learning communities in which people care enough about a topic to collaborate, disagree, and ultimately build new knowledge. What could be a better learning experience?"

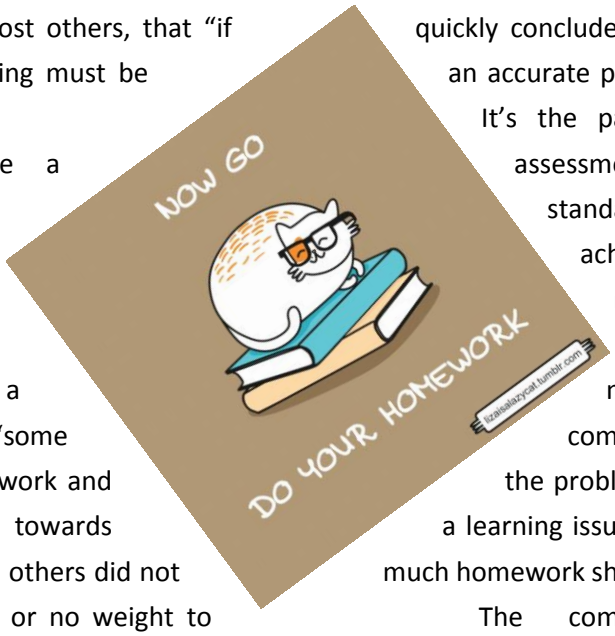
- "Choosing Apps by Design" by Jay McTighe and Tom March in *Educational Leadership*, May 2015 (Vol. 72, #8, p. 36-41), available for purchase at http://bit.ly/1HaqS5g; the authors can be reached at jaymctighe@verizon.net and tom@ozline.com.

Making Sense of Homework

In this article in *School Leader*, New Jersey superintendent Ross Kasun describes how his views on homework evolved as he dealt with teachers and parents and read the research. "For the most part, as a practice, it is completely outdated and largely misused as a means of impacting student learning and achievement," says Kasun. "…yet homework is assigned at almost every



level, it is rarely questioned, and some people think our students should get more of it." When he was a teacher, he remembers not knowing much about the rationale for homework, rarely discussed it with colleagues, and gave his students "many ineffective assignments." As a principal, Kasun didn't devote many brain cells to thinking about homework, taking action only when parents complained. Yet he assumed, along with most others, that "if homework was assigned, learning must be occurring."



When Kasun became a superintendent, he had to pay more attention. For starters, there were problems when teachers weren't given clear guidance. "Some teachers gave a lot of homework," he says, "some gave none, some graded homework and those grades counted heavily towards the students' final grades, while others did not grade homework or gave little or no weight to homework grades… Some teachers were giving some effective assignments that encouraged thinking and others were assigning busywork that promoted very little learning." He was especially concerned with how many teachers assigned word search puzzles, mindless copying of spelling words, and intellectually empty projects.

Parents seemed to be evenly split between those who thought their children were getting too much homework and those who believed they weren't getting enough. With some homework assignments, parent help (and purchases) were vital, which would seem to widen achievement gaps based on the level of home resources different students had.

What brought the issue to a boil in Kasun's first summer as superintendent was a slew of parent calls about children who had straight As on their report cards but were assigned to Basic Skills because they'd done poorly on New Jersey state tests. There were also students with the opposite problem: excellent scores on state tests but Cs and Ds on their report cards. The common factor? Homework was counted as a major portion of students' grades. Some low-performing students were able to get high grades by always doing their homework, and some high-performing students didn't do homework and were dinged on their report cards.

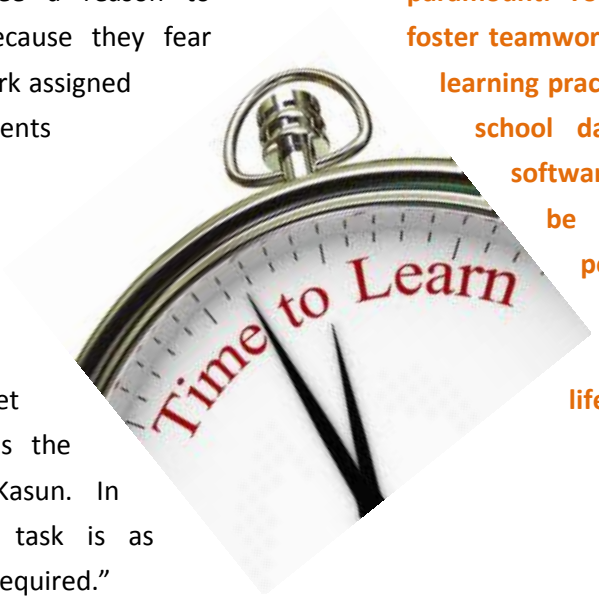
Kasun convened a group of colleagues and they quickly concluded that "homework performance is not an accurate portrayal of final proficiency or mastery. It's the path to learning, so it's a formative assessment. We grade students against standards, not the routes by which they achieve them. Homework is practice and not a determination of mastery and grades are saved for declarations of mastery… When students fail to complete homework, we tend to approach the problem more like a discipline problem than a learning issue." This led the group to question how much homework should count in students' grades.

The committee also looked into the disproportionate impact of giving zeroes to students for not doing homework or failing to turn in assignments. "Traditional practices of giving zeroes and not accepting late assignments allow students to escape accountability for learning," says Kasun. "Learning is not about compliance, and we do not teach responsibility with a stick and carrot… We are faced with the irony that a policy that may be grounded in the belief of holding students accountable (giving zeroes) actually allows some students to escape accountability for learning." Here are the changes the district decided to implement:

- ***Homework can be counted as only 5 percent of a student's final grade.*** "Once the threat of grades is taken away from homework," says Kasun, "homework becomes a safe place to try out new skills without penalty, just as

athletes and musicians try out their skills in practice or in rehearsals."

- ***No zeroes.*** The lowest grade is 50. "It is not about control," he says; "it is about learning. We need to assign work that is relevant and connected to the classroom, so that students see a reason to complete it, and not solely because they fear getting a bad grade. The homework assigned should be so meaningful that students need to complete it."



- ***Time limits on homework*** – The guideline was 10 minutes per grade level per night – in other words, third graders get 30 minutes, seniors get 120 minutes. Consistency across the district was important, says Kasun. In addition, "The quality of the task is as important as the amount of time required."

As the new policies were implemented, there was some push-back. Kasun addresses the major objections:

- **Students won't do homework if it isn't a big part of their grade. In fact, he says, grades aren't the factor that determines who does homework and who doesn't; it's the *usefulness* of homework.**
- **Homework teaches responsibility and time management. "This is also an incorrect idea," says Kasun, "as homework does not reinforce time management if adults have to coerce children into doing it; if children are coerced, they are not in charge of making decisions about the use of time."**
- **Giving students 50 for doing nothing is wrong. Kasun went back to the unfairness of giving zeroes on a 100-point scale (it's virtually impossible to recover from a zero), and pointed out that teachers' evaluations on the Danielson rubric were on a 4-point scale with 1 being the lowest possible score.**

Kasun concludes with the key principles addressed in the district's professional development:

- **The purpose of homework is to foster learning.**
- **Flipped learning is an efficient way to make homework more meaningful.**
- **Teachers need to assign homework that students can complete on their own.**
- **Collaboration and personalized learning are paramount. Tools like Google Docs and blogs can foster teamwork in the classroom and beyond. "Best learning practices should not end at the end of the school day," he says. "The same intuitive software that we use in our classrooms can be assigned at home to create personalized learning that meets each student where he or she is… Students use these tools as part of their daily life, so it is often how they learn best."**

"Busy Work or Home Learning? One District's Journey to Remake Homework for the 21st Century" by Ross Kasun in *School Leader*, May/June 2015 (Vol. 45, #6), http://www.njsba.org/news/school-leader/05062015/busy-work-or-home-learning.php; Kasun can be reached at rkasun@freeholdtwp.k12.nj.us.

Learning Multiplication Tables by Fourth Grade

In this article in *Teaching Children Mathematics*, Gina Kling (Western Michigan University) and Jennifer Bay-Williams (University of Louisville) suggest a strategy for meeting the challenging Common Core standard of knowing *from memory* all single-digit multiplication facts by the end of third grade. Mastering multiplication facts has been a challenge for generations of math learners. "That was the day I decided I was bad at math," is a common refrain among adults thinking back to their elementary school days. The methods used – timed tests, tense competitions, and public displays of who mastered

multiplication tables and who hadn't – may be responsible. One teacher remembered, "We learned a song for every fact. I can find any fact quickly, but I still need to sing the song first."

Kling and Bay-Williams address three essential questions on the road to multiplication mastery:

- ***What is fluency?*** It's been defined as "skill in carrying out procedures flexibly, accurately, efficiently, and appropriately." Note that *speed* is not on the list. Also, there's an important distinction between *from memory* and *memorization*: really mastering multiplication facts means that students "just know" that 2 x 6 = 12 without having to memorize it, and are so fluent at applying strategies that they do so automatically, without hesitation.

- ***What approaches successfully build fluency?*** Kling and Bay-Williams say that conventional methods of teaching the tables don't build long-term mastery and fluency because they skip the second step in this developmental ladder:
  - ***Phase 1: Modeling and/or counting to find the answer*** (e.g., finding 6 x 4 by drawing 6 groups of 4 dots and skip-counting the dots);
  - ***Phase 2: Deriving answers using reasoning strategies based on known facts*** (e.g., solving 6 x 4 by thinking 5 x 4 = 20 and adding one more group of 4);
  - ***Phase 3: Mastery – efficient production of answers*** (e.g., knowing 6 x 4 = 24).

Traditional approaches (flash cards, drill, timed tests) skip Phase 2. Without that phase, students don't retain the facts they memorize, and even if they remember them, they can't apply them fluently because they haven't developed a *feel* for the numbers. "Research tells us that students must deliberately progress through these phases," say Kling and Bay-Williams, "with explicit development of reasoning strategies, which helps students master the facts and gives them a way to regenerate a fact if they have forgotten it. Students make more rapid gains in fact mastery when emphasis is placed on strategic thinking." Here's an effective instructional sequence:

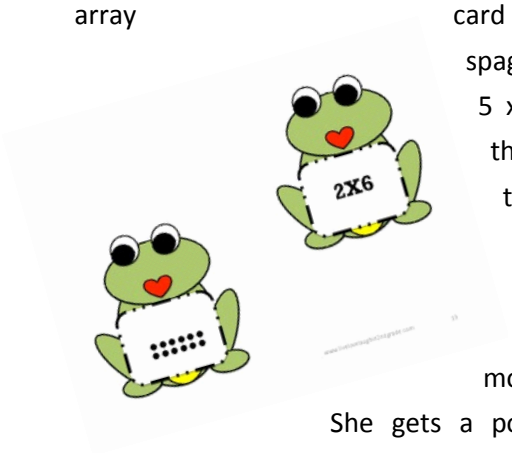
- ***Foundational facts*** – By the end of second grade, students should know: 2s, 5s, and 10s; addition doubles; 0s and 1s, and multiplication squares (2 x 2, 3 x 3, etc.) – by using story problems, arrays, skip counting, patterns on a hundreds chart, and a multiplication table.
- ***Derived facts*** – Building on the foundational facts (which they should know cold), students work on quickly figuring out "nearby" facts by adding or subtracting a group (I don't know 9 x 6, so I think "10 x 6 = 60" and subtract one group of 6 to get 54); halving and doubling (I don't know 6 x 8, so I think "3 x 8 = 24" and double that to get 48); using a square product (I don't know 7 x 6, so I use 6 x 6 = 36 and add one more 6 to get 42); and decomposing a factor (I don't know 7 x 6, so I break the 7 into 2 and 5, because I know 2 x 6 and 5 x 6, then I add 12 and 30 to get 42).

Underlying all these strategies are the commutative, associative, and distributive properties of multiplication. (Common Core standards don't ask students to be able to *name* these properties, only to be to *apply* them intuitively to make facts easier to solve.)

- ***What does meaningful practice look like?*** "There is no doubt that practicing multiplication facts is essential for mastering them (Phase 3)," say Kling and Bay-Williams. But drilling isolated facts doesn't work. "To maximize precious class time spent practicing facts, embedding that practice in worthwhile mathematical activities is important." Meaningful practice uses the facts in rich, engaging activities that promote problem solving,

reasoning, and communicating mathematical thinking. Games can also deepen mastery of multiplication facts without the anxiety of timed drills and competitions. Here are three games:

- ***Strive to Derive*** – 2-4 students have array cards (3s, 4s, 6s, and 9s), uncooked spaghetti or thin sticks, and two teacher-labeled dice, one with 3, 3, 6, 6, 9, 9 and the other with 0, 1, 4, 6, 7, and 8. For example: Lisa rolls a 6 and a 7. She pulls the 6 x 7 array card and places spaghetti to show 5 x 7 and 1 x 7, then says, "Six times seven is five times seven, 35, and one more seven, 42." She gets a point, then the next player goes.



- ***Cover It*** – Two players spread matching array cards so they're all visible. The first player pulls an array from the middle and gives it to the other player, who must find two arrays that exactly cover the one received. If player 2 succeeds, he or she keeps the three array cards. If player 2 can't do it, player 1 has a chance and can also win the cards. Players switch roles and continue, saying or writing the combinations they find to cover the original array.
- ***Multiplication Tetris*** – The teacher rolls two dice (any kind), and each student decides where and in what orientation to fit that rectangle on the grid paper (for example, 4 x 6) and write the multiplication fact. The teacher continues to roll and students mark out the called rectangle somewhere on the grid. When a student can't fit a rectangle, he or she is out of the game, and the last students in the game are the winners.

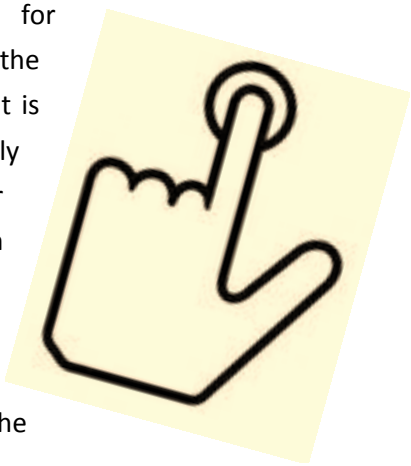
- "Three Steps to Mastering Multiplication Facts" by Gina Kling and Jennifer Bay-Williams in *Teaching Children Mathematics*, May 2015 (Vol. 21, #9, p. 548-559), www.nctm.org; the authors can be reached at gina.garza-kling@wmich.edu and j.baywilliams@louisville.edu .

How to Engage Middle-School Students

"What is active learning and what does it look like in the classroom?" asks Susan Edwards (Georgia Regents University) in this *Middle School Journal* article. Some key ingredients:

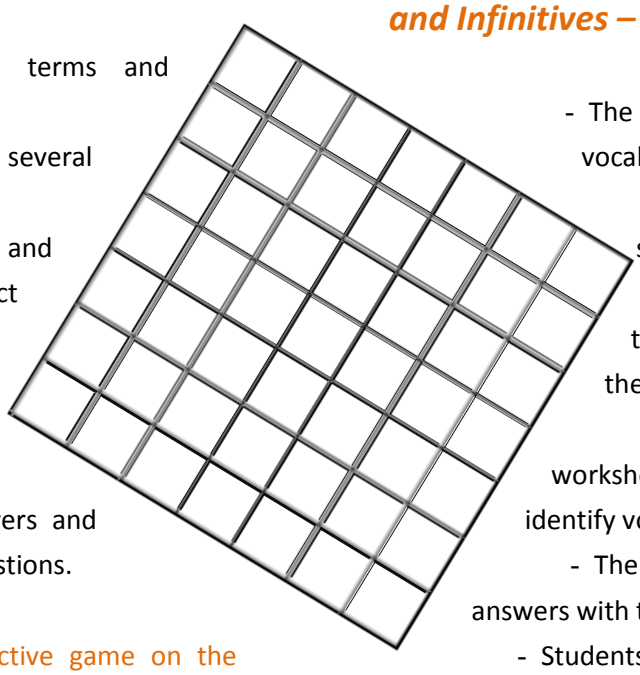
- **Students are intellectually involved in learning through problem-solving activities, creating multimedia presentations, synthesizing research for presentations or papers, inquiry activities, and concept maps.**
- **They are socially engaged through whole-group discussions, small-group discussions, and small-group projects.**
- **They are physically engaged through hands-on projects, manipulatives, games, building models, and lab experiments.**
- **They aren't overly reliant on the teacher**
- **They reflect on ideas and how they are using those ideas.**
- **They regularly assess their own understanding of subject matter and skills.**

"The goal is not activity for activity's sake or to make the lesson fun," says Edwards. "It is not achieved by simply incorporating some games or fun activities into a lesson plan. Clearly, every activity in a lesson should lead to purposeful learning of the lesson objectives and the standard to be met."



Edwards goes on to compare three lessons taught in a traditional, passive mode and then in an active mode:

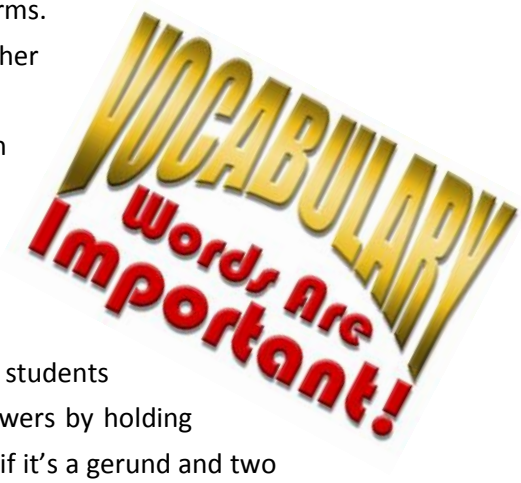
- ***Fifth grade: Solving problems on a coordinate plane in Quadrant 1 – Traditional mode:***
  - Bell-ringer: students write the coordinates of 3 points on a coordinate plane.
  - The teacher goes over the answer with the class.
  - The teacher uses PowerPoint to introduce solving problems on the coordinate plane.
  - Students copy key vocabulary terms and definitions into their notebooks.
  - The teacher demonstrates several problems.
  - Students do an example problem and the teacher explains the correct answer.
  - Students practice 20 problems of varying levels of difficulty in their workbooks.
  - The teacher goes over the answers and gives students a chance to ask questions.



- ***Same content, active mode:***
  - The whole class plays an interactive game on the Promethean board with students taking turns coming up front. The game asks students to think logically, for example, "Which direction will the point move if I make the x-coordinate bigger?"
  - Students get out their math journals and come up with student-friendly definitions of vocabulary terms based on the teacher's explanations.
  - Students rotate through four stations in small groups:
    - ✓ **Station A – Students plot 4 points on a coordinate grid, connect the points, and say what geometric figure is formed, which line segments are parallel, and which line segments are perpendicular.**
    - ✓ **Station B – Students work together to solve word problems on a worksheet.**
    - ✓ **Station C – Students explain a path from the school to the town library, using points on a coordinate plane. They can move magnets around on a giant coordinate plane with pictures of town buildings superimposed on the plane.**
    - ✓ **Station D – Students play an interactive game on the Promethean board.**

- ***Eighth grade ELA: Gerunds, Participles, and Infinitives – Traditional mode:***
  - The teacher introduces new vocabulary terms.
  - The teacher displays sample sentences and asks students to identify different terms – for example, "What is the gerund in this sentence?"
  - Students complete a worksheet with 20-25 sentences and identify vocabulary terms.
  - The teacher goes over the answers with the whole class.
  - Students are assigned a page in the grammar book for homework.

- ***Same content, active mode:***
  - The teacher uses PowerPoint to introduce vocabulary terms.
  - The teacher displays sentences on the board related to the vocabulary terms and students give their answers by holding up one finger if it's a gerund and two if it's an infinitive.



- The teacher does a multimedia presentation with videos and pictures of students, each accompanied by a sentence – for example, "The sleeping boy was suddenly awakened by his teacher." Students have to identify verbals in each example, individually and in their notebooks.

- The class discusses the answers, with the teacher calling on students to change sentences as he calls on them – for example, change this sentence from passive to active voice.
- Students work in small groups to create their own video with sentences using verbals.

- ***Eighth-grade social studies: Key issues leading to the Civil War – Traditional mode:***

- The teacher lectures using PowerPoint.
- Students take guided notes.
- Students read a section in the textbook.
- Students answer questions at the end of the section.

- ***Same content, active mode:***

- The class plays a quiz bowl game using buzzers. Everyone rotates through two teams of five facing each other. The teacher asks questions involving understanding, applying, and analyzing and calls on the student who buzzes first.
- The teacher requires students to explain their answers and probes with follow-ups: Expand on your definition of *campaign*. Use the word *battle* in your definition. This is where I need you to think and make connections.
- The teacher interrupts the game several times with two activities: Heads-Down Quick Poll (a quick self-assessment) and repeating the correct answer three times.
- Students work with partners on projects in which they create newsletters with articles and illustrations.
- Students get a homework "Brag Sheet" assignment: they must explain to parents what they know about a list of topics (parents receive the answer sheet from the teacher and must sign off that their children knew the material).

"Active Learning in the Middle Grades" by Susan Edwards in *Middle School Journal*, May 2015 (Vol. 46, #5, p. 26-32), www.amle.org; Edwards can be reached at sedwar12@gru.edu.