

THIS IS A VELOCIRAPTOR-FREE WORKPLACE



IT HAS PROUDLY BEEN

25,915,000,000

71 million years x 365 days per year

DAYS SINCE THE LAST
INCIDENT

“Research on cooperative learning is one of the greatest success stories in the history of educational research.”

Slavin, Hurley & Chamberlain.



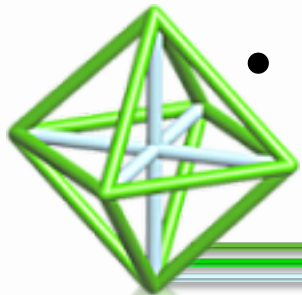
Reflecting on Practice: Using Formative Assessment to Inform Instruction

Unit 3 Session 12



Key Strategies for Effective Formative Assessment

- Clarifying, sharing and understanding goals for learning and criteria for success with learners
- Engineering effective classroom discussions, questions, activities and tasks that elicit evidence of students' learning
- Providing feedback that moves learning forward
- Activating learners as instructional resources for themselves
- **Activating learners as instructional resources for each other**



- No Put-Downs
- Group Questions Only
- No Talking Outside Your Group
- Work Together
- Listen and ask questions
- Everyone gets equal time and takes turns
- Help Other Group Members...
 - ...without doing their work for them or only giving them answers
- All leaning in



...yet!

- Task Manager**
- Gets the team off to a quick start
 - Makes sure that task is read aloud and that everyone understands the task
 - Organizes the team so they can complete the task
- Who knows how to start?
Does everyone get what to do?
I don't get it yet...ask someone help?
We need to keep moving so we can...

- Norms Manager**
- Encourages participation
 - Extends use of norms
 - Finds compromises
 - Substitutions are allowed only
 - Makes sure everyone is in their seat and the ball stops
- Remember, we talking outside our zone.
Let's find a way to work this out.
We need to spend on listening to each member of the team.
Can you replace your thinking?

- Communications Manager**
- Gives update statements on team's progress
 - Makes sure each member of the team records the data
 - Organizes and introduces the team report
- Did everyone get their own data?

- Resource Manager**
- Collects supplies for the team
 - Calls the teacher over for team questions
 - Cares for and returns supplies
 - Organizes team binder and clean up
- I think we need more information here.
I'll get the teacher over.
We need to clean up. Can you, uh, uh L.
Do we all have the same question?

FIBONACCI NUMBERS in nature

914 231 377 610 987 1597 2584

What is ma

Find out in

www.ams.org/n

Clint's Classroom

Open up the PCMI OneNote at bit.ly/pcmiwg15 (you may already have it open).

Be sure you click on EDIT IN BROWSER (if it's not already open on your computer).

Find your Room section.

Click on the GeoGebra page and click on the link to today's GeoGebra file.



The quadrilateral RSTP on has points T & P fixed.

- Move R and S to create a quadrilateral whose diagonals are perpendicular.
- Be ready to prove that your shape satisfies the conditions.
- Screen Clip and then **PASTE** (Ctrl-V) onto YOUR page in your OneNote
- You can choose to paste more examples.



How would you use these results to have students become “resources for each other”?



Effective Formative Assessment: Key Strategy 5

- Activating students as resources for one another



You're either an...

A B C D or E

Once you know your letter, grab the handout from the blue folder and then...

All the As go to one table ... Bs go to another, etc.



Become an expert on...

By expert we mean:

- (1) Explain the strategy,
- (2) describe how strategy would look in a classroom,
- (3) what are some of the challenges you might have implementing this strategy, and
- (4) how would you overcome those challenges?
 - A: Shuffle Quizzes
 - B: Group Presentations
 - C: Group Posters
 - D: Participation Quizzes
 - E: Group Quizzes



Back to your tables!

- Round robin, share your new knowledge



Jennifer's Video

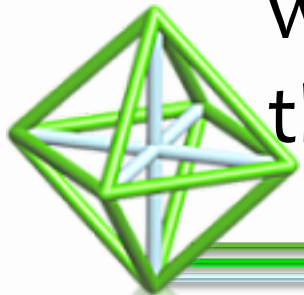


Homework

- How might we use it for formative assessment? (rhetorical question for the moment)
- It should always have a clear instructional purpose, not just a ritual



- In your assigned pairs, think about how homework might be discussed, managed or ‘gone over’ in class in a way that activates students as resources for each other.
- What will students (or teachers) do with their homework to make students responsible for interacting and sharing with each other to support their own and their peers’ understanding?

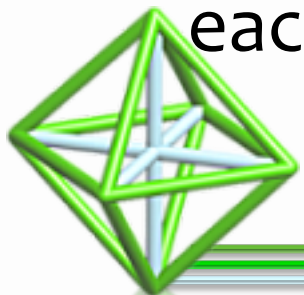


- Homework should be assigned **for a deliberate purpose**, not just to keep students busy or because you always do.
- What are ways, besides those we already talked about, to use homework so you can learn what students understand?



5 Key Strategies for Effective Formative Assessment

- Clarifying and sharing learning Intentions
- Engineering effective classroom discussions, questions and learning tasks
- Providing feedback that moves learners forward
- Activating students as owners of their own learning
- Activating students as instructional resources for each other



Reading

Read Wiliam, D. (2007). Five Key Strategies for Effective Formative Assessment. Judith Reed Series Editor. National Council of Teachers of Mathematics Research Brief



References

- Slavin, R. E., Hurley, E. A., & Chamberlain, A. M. (2003). Cooperative learning and achievement. In W. M. Reynolds & G. J. Miller (Eds.), *Handbook of psychology: Vol. 7. Educational psychology* (pp. 177–198). Hoboken, NJ: Wiley.

