

BUILDING THINKING CLASSROOMS

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① Begin w/ a Problem

Give a problem-solving task

To start:

- Problems should be
 - engaging
 - not-curricular
 - collaborative
 - ↳ promote talking

Later:

- Problems can be curricular
 - eg textbook problems


② Visibly Random Groups

- Randomly assigned
 - eg playing cards
- Daily & in front of students
- 2 or 3 students / group
- Sit & stand together



③ Vertical NonPermanent Surfaces

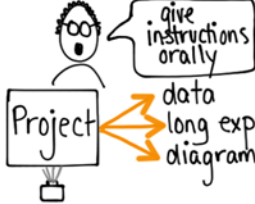
- Vertical
- Erasable



WHITEBOARD CHALKBOARD WINDOW

- 1 marker or chalk per group
 - ↳ promotes discussion

④ Oral Instructions




give instructions orally

Project

- data
- long expressions
- diagrams

↳ groups will discuss (instead of decoding text)


⑤ Defront the room



Desks

- orient in various directions
- pull away from wall (room to stand @ VNPS)

Teacher addresses the class from a variety of locations.



⑥ Answering Questions

Acknowledge, but don't answer:

- Proximity questions (b/c teacher is close by)
- Stop thinking questions

Answer:

- Keep thinking questions
 - ↳ give HINTS not answers

is this right?

⑦ Meaningful Notes


Student created:

- select
- synthesize
- reorganize

ideas

Based on their or others' boards

Provide time for this after levelling.

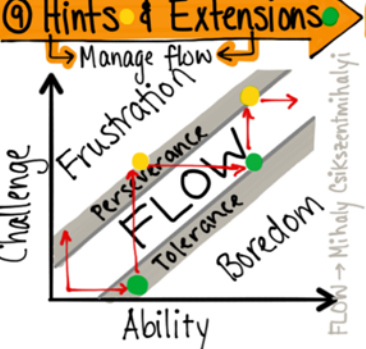


⑧ Build Autonomy

- Model how groups can visit other groups when they are stuck or done.
- Hints & extensions come from peers (not just the teacher).
- ↳ Helps manage flow

FLOW

⑨ Hints & Extensions



Challenge

Ability

Manage flow

Frustration

Perseverance

FLOW

Tolerance

Boredom

FLOW → Mihaly Csikszentmihalyi

⑩ Level to the Bottom

- debrief
- class discussion
- direct teaching
- the "lesson"

Once all groups pass a minimum threshold.

- Debrief 1 or more groups' solutions!
- Work through a new problem w/ whole group

⑪ Check Understanding

Assign 4-6

"check for understanding" questions

Students choose to work

- individually
- in groups
- at desks
- on VNPS

Purpose: self-evaluation (NOT marks)

⑫ Formative Assessment

measure → communicate

where student is currently → where student is going

Multiple & varied opportunities to demonstrate learning

observation → product

conversation

can't dis... → fully completely always

⑬ Summative Assessment

PROCESS > product

Evaluate what you value!

Include:

- group work
- individual work

⑭ Reporting

Based on data (NOT points)

One aggregated mark

↳ disaggregated evidence

Analysis of data → Counting of points

What has this student learned? → What can they improve?