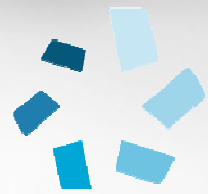


IT'S MORE THAN JUST "FLIPPING" THE CLASS!

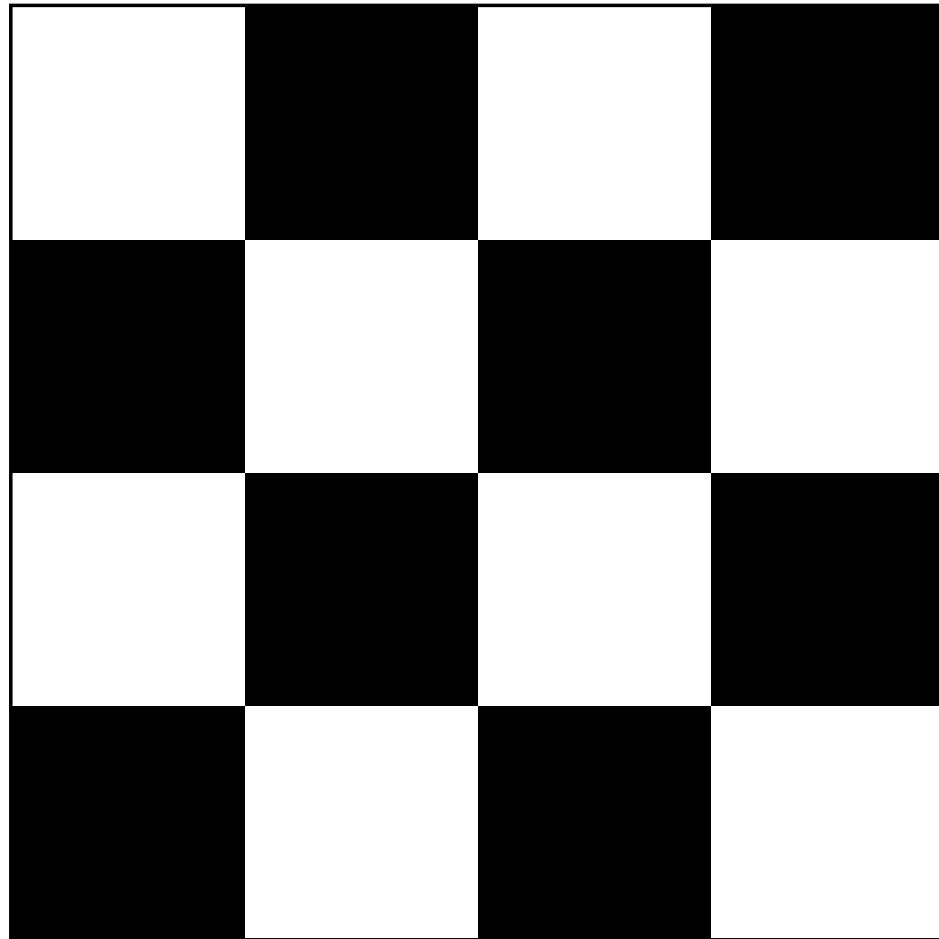
Using Technology Intelligently to Enhance Teaching & Ignite Learning

with Damon Givehand, Cengage Learning | Digital Educator



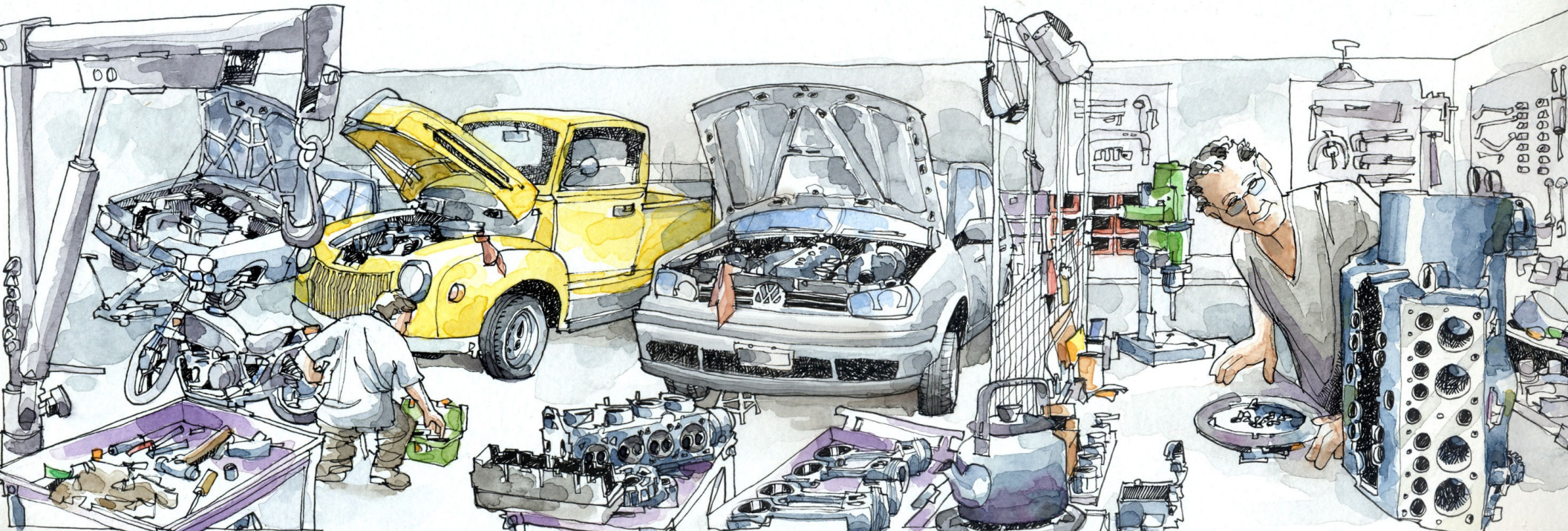
CENGAGE
Learning™

How many unique squares?



How many jelly beans in your life...? video

- You can find this by doing a YouTube search
- Here's a URL for it https://www.youtube.com/watch?v=BOksW_NabEk



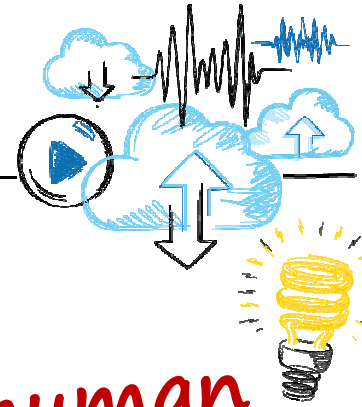
OBJECTIVES

Intelligent Tech Use

- Accelerate Learning Timeline
- Provide Optimal Student Support
- Prolong Meaningful Student Engagement

PUZZLE #1

7H15 M3554G3 53RV35 7O PROV3 HOW OUR
M1ND5 C4N D0 4M4Z1NG 7H1NG5! 1MPR3551V3
7H1NG5! 1N 7H3 B3G1NN1NG 17 W45 H4RD BU7
NOW, ON 7H15 LIN3, YOUR M1ND 1S R34D1NG 17
4U70M471C4LLY W17H OU7 3V3N 7H1NK1NG
4B0U7 17, B3 PROUD!
7H3 M1ND 1S 4 73RR1BL3 7H1NG 7O W4573! 😊



“The only thing about a ~~man~~ ^{human} that is a ~~man~~ ^{human}
... is his ^{or her} mind. Everything else you can find
in a pig or a horse.”

– Archibald MacLeish

How can modern digital tools be intelligently applied to promote active learning?

How can modern digital tools be intelligently applied to increase teacher productivity?

What online resources or apps exist for math instructors? (please give website or app name and brief description)

What strategies have proven to work well with engaging math students and helping them develop into competent, proficient learners?



FOUR Questions

How can modern digital tools be intelligently applied to promote active learning?

1

How can modern digital tools be intelligently applied to promote active learning?

Visualize ? + +

pre-class learning + + +
(videos, etc.)

Videos to show relevance? + +

ASSESSMENT TO CHECK UNDERSTANDING + +

CAN ADJUST CONTENT TO BEST MEET NEEDS + +

~~MAKE~~ MAKE IT PERSONAL TO EACH LEARNER + +

TEAM WORK OUTSIDE OF CLASS ? +

Easily accessible ie mobile tech

Immediate feedback



How can modern digital tools be intelligently applied to increase teacher productivity?

2

How can modern digital tools be intelligently applied to increase teacher productivity?

- What are considered 'modern' digital tools? + ??
- Graphing calculators - see graphs right away + - -
 - change variables
 - impact on diff. parts of equation
- understanding student behavior/ (analytics) performance + +
- refine student process real-time + ?
- Videos as additional teaching tools + +
- HAVE ASSIGNABLE + GRADABLE HOMEWORK +
- SEE STUDENT PERFORMANCE in REAL-time to ADJUST CLASS FOCUS + PROGRESS +
- GRADED HOMEWORK +
- ASSESSMENT + PLACEMENT of STUDENTS +
- Continual Usage Sem-to-Sem SAVES TIME



What online resources or apps exist for instructors in your discipline? (please give website or app name and brief description)

3

What online resources or apps exist for math professors? (please give website or app name and brief description)

- + YouTube Voice Activated Equations / Math Palette
- + Web work TEC MOST CONNECT Diagnostics ALEKS Lecture Tools Top Hat Mathematica MAPLE
- + Google
- + Homework Software Accuplacer xyz Math Compass Kaltura
- + MATLAB (R)
- + Excel (ms)
- + My MathLab + Camtasia + WebAssign
- + Wolfram Alpha + Desmos + MindTap
- + Blackboard (LMS) + Photo math + Jing
- + Presentation apps/software i.e. Prezi, iMovie + Dropbox + Google Docs
- + Ask3**
- + Binders

What strategies have proven to work well with engaging students and helping them develop into competent, proficient learners?

4

What strategies have proven to work well with engaging math students and helping them develop into competent, proficient learners?

- +++ - ACTIVE LEARNING AND INTERESTING
- +++ - MAKE CONTENT RELEVANT to Students
- +++ - USE of Technology w/ Feedback
- ?+ - Meaningful Assessment
- ++ - Making Connections
- Ⓢ ++ - Materials Customized to Course
- + - Group work
- + - Pair-to-share (peer learning)
- Reflective review of own work



3 Types of Interaction Important for Learning AND Engagement

Learner-Content



Learner-Instructor

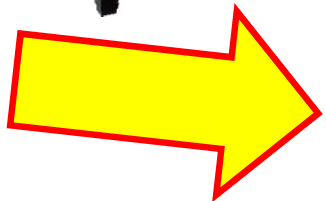
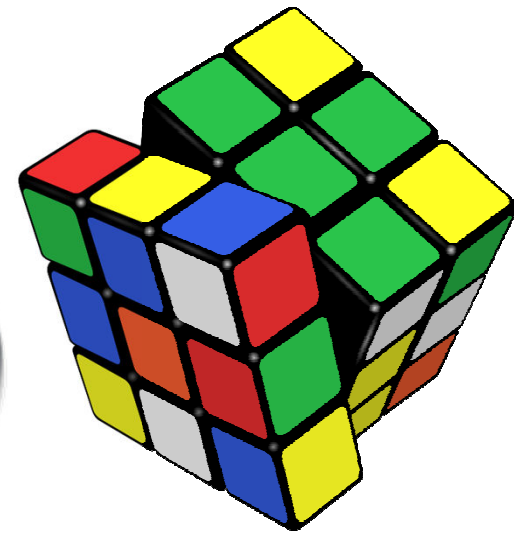


Learner-Learner

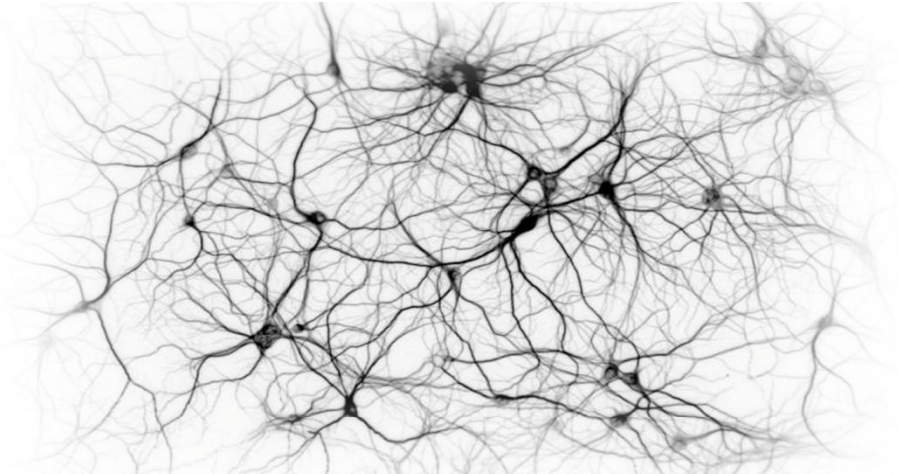


Think of something challenging that you learned and got good at...

- Think about the process you went through to get better and better.



- Why was it so difficult at first?
- What was/is the most crucial phase of the learning process?



PROCESS

**NOT THAT
GOOD**

**GETTING
BETTER**

**GETTING MUCH
BETTER**

Initial

exposure experience

Subsequent

exposure, experience,
and practice

Frequent/Repeated

often, uninterrupted,
intense, long periods

PUZZLE #2

This little card is a quick way to help you see that it's ,time first the for something do you anytime often awkward and a little difficult. Don't be something learning when yourself on tough too new. Always allow yourself time to digest the re-read you if that notice even You'll .experience this several times, it gets easier doesn't it?

90 more seconds of questions

What strategies DO you use to...

1. initiate learning sooner with students?
2. maximize in-class time to allow for collaborative, higher order thinking activities?
3. keep students actively and continuously engaged with subject matter longer?

Before Class



During Class

Lecture
L.O.T.

After Class

Homework
H.O.T.

Extra Mile

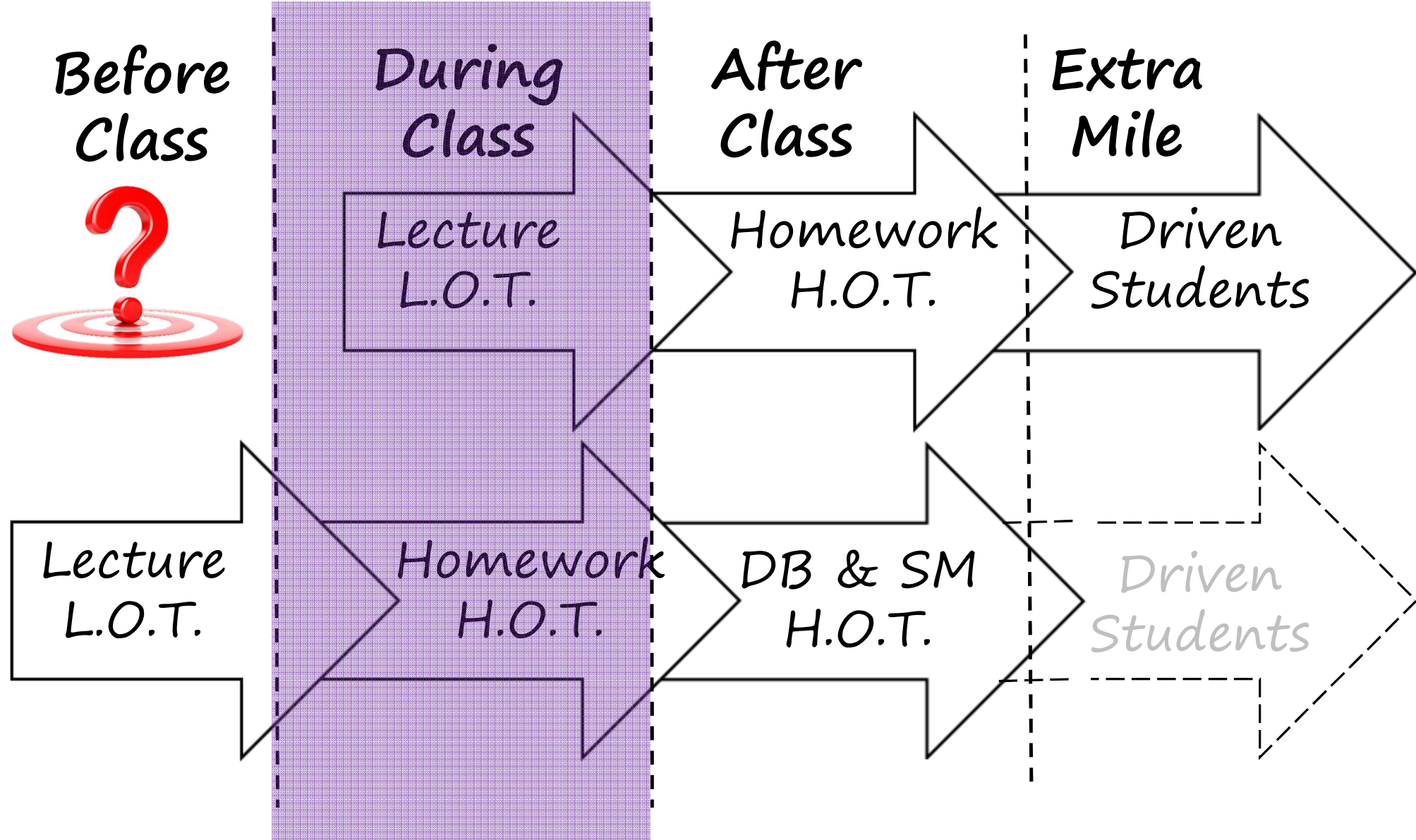
Driven Students

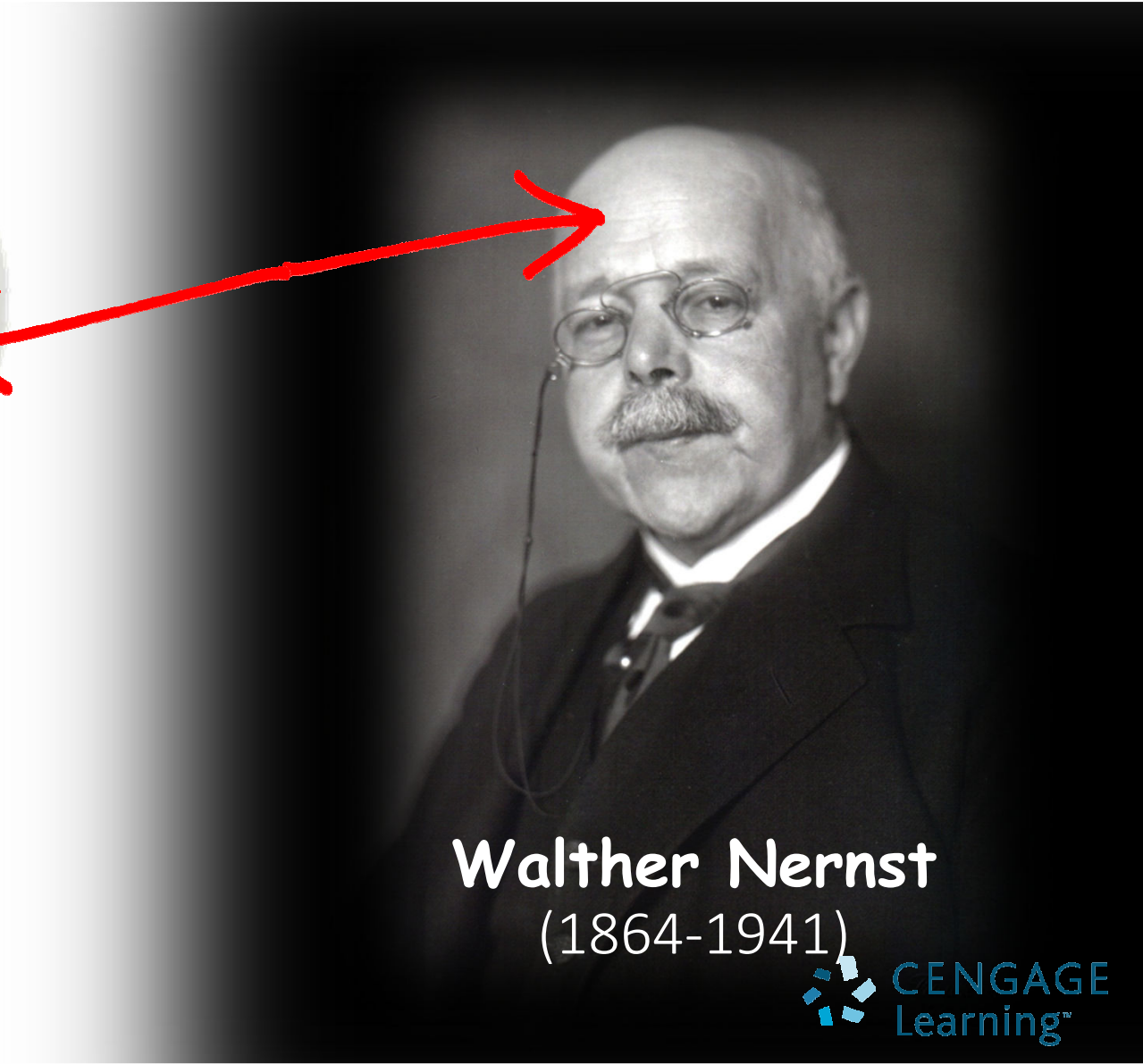
Lecture
L.O.T.

Homework
H.O.T.

DB & SM
H.O.T.

Driven Students





Walther Nernst
(1864-1941)

INTELLIGENT USE OF TECH ALLOWS US...

**BEFORE
CLASS**

Recordings,
Individualized,
foundational exercises,
convenient, preparatory

**DURING
CLASS**

interactive,
collaborative, social,
knowledge discovery &
construction

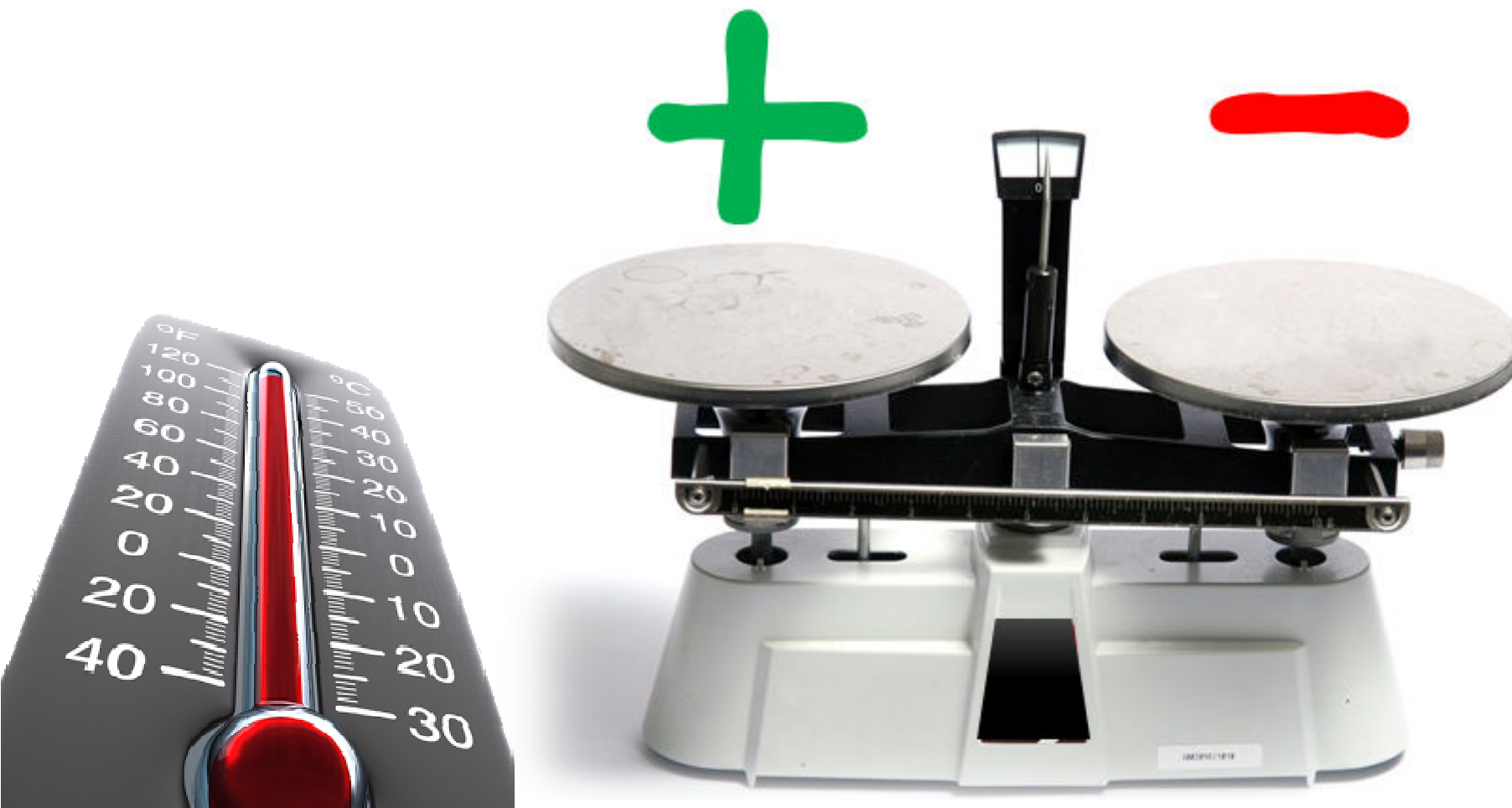
**AFTER
CLASS**

Online discussion
boards, prolonged
engagement

THIS APPROACH TO TEACHING & LEARNING...

1. moves the **LEARNING TIMELINE** → “forward”
(sooner)
2. provides **OPTIMAL LEARNER SUPPORT**
when it matters most (HOT)
3. increases “**CONDUCTIVITY**” (of mind)

What is your feeling about “pre-class” recordings...?





during class

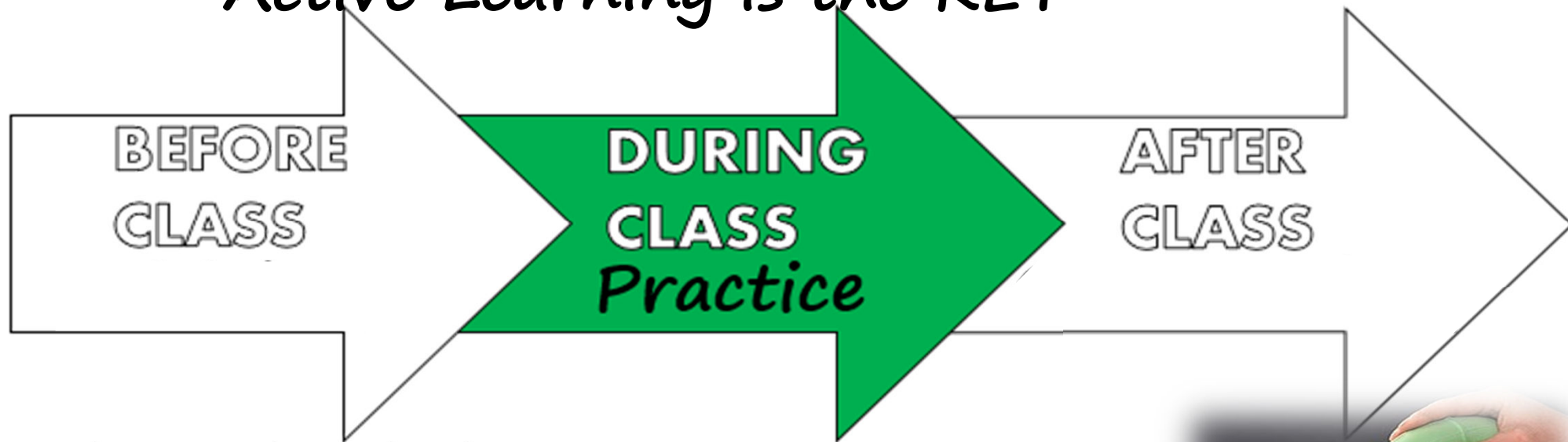


- Jigsaw
- Changing Charts
- Think-Pair-Share
- Index Card Questions
- Quick Encounters & Exchanges
- Small & Whole Group Discussion
- Poll Questions
- etc...



GROWING LEARNERS

Active Learning is the KEY



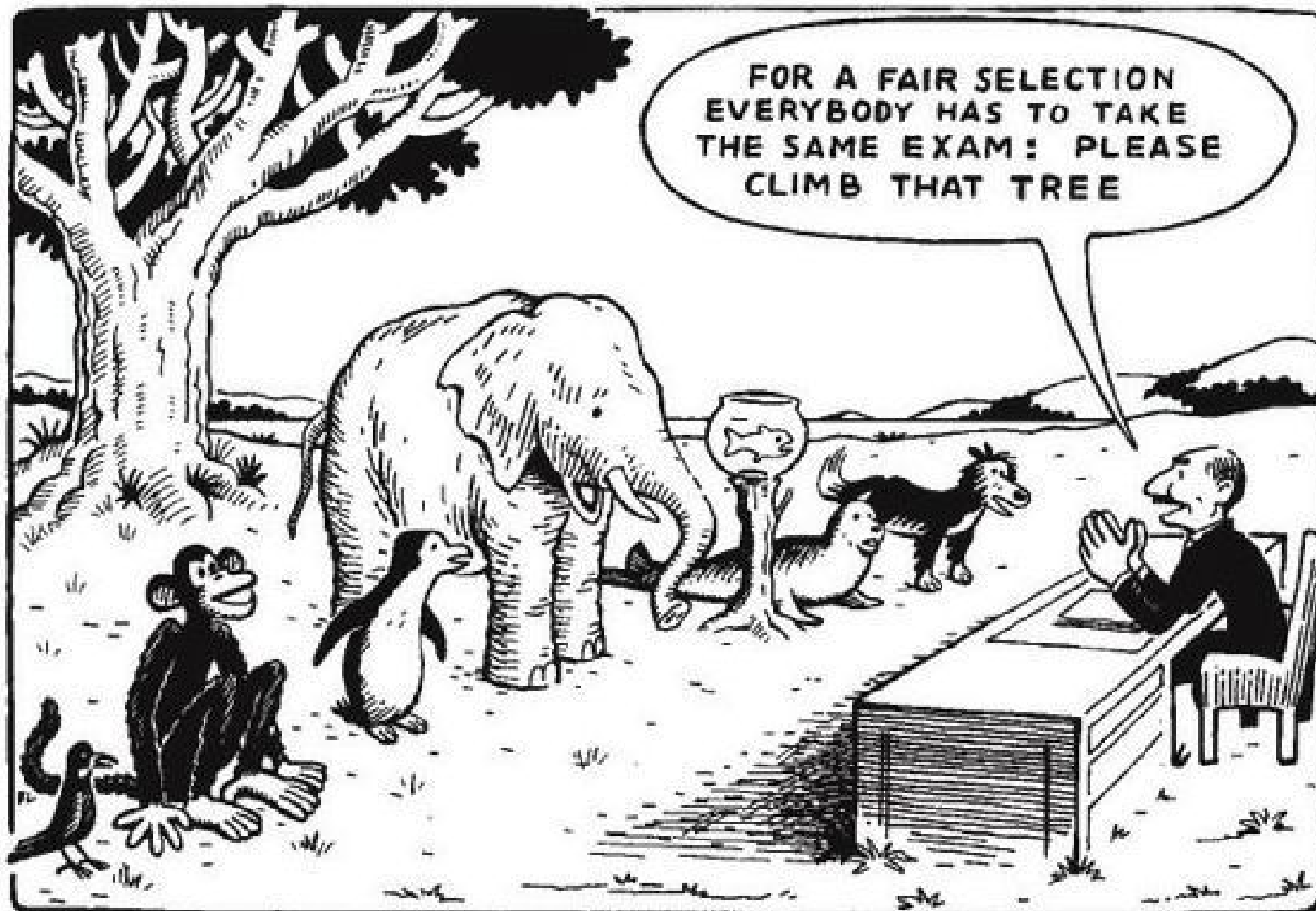
1. Higher Order Thinking (H.O.T)
2. Collaborative (peer support)
3. Active learning/participation for knowledge discovery and construction
4. Instructor support when it counts!





“We never educate directly, but indirectly by means of the environment.”

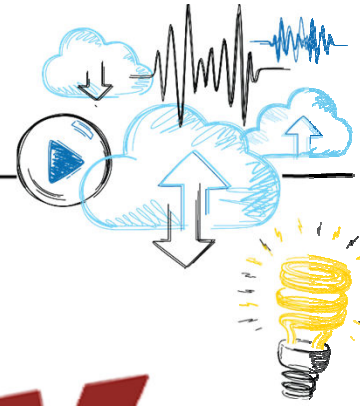
~John Dewey, *Democracy and Education* (1916)



PUZZLE #3

WH47 1F YOU W3R3 G1V3N 4 PROBL3M L1K3
4ND COUR53 4 OF B3G1NN1NG 7H3 47 7H15
W3R3 7OLD 70 50LV3 17? HOW WOULD 7H15
5H3D5 3X3RC153 7H15 ,533 ?F33L YOU M4K3
L1GH7 ON 4N 1MPOR74N7 P01N7 70
57RUGGL1NG W17H 35P3C14LLY ,R3M3MB3R
57UD3N75. G1V3 7H3M CH4LL3NG35 1N
C4N 7H3Y 50 CHUNKS 0B741N4BL3 ,5M4LL
B3G1N 70 BU1LD CONF1D3NC3.

Connect with me on LinkedIn – Damon Givehand



THANK YOU

GRACIAS
ARIGATO
SHUKURIA
JUSPAXAR
DANKSCHEEN
SNACHALHUYA
TASHAKKUR ATU
YAQHANYELAY
SUKSAMA
EKHMET
GRABANI
MEHRBANI
MEREH
PALDIES
BOLZIN
MERCY

SPASSIBO
NUHUN
CHALTU
WABEEJA
MAITEKA
YUSPAGARATAM
HUI
NATUR
GUE
EKOJU
SIKOMO
MAKETRI
MINMONCHAR
BAIKIA
TAVTAPUCHI
MEDAWAGSE
GOZAIMASHITA
EFCHARISTO
AGUYJE
FAKAAUE
KOMAPSUMNIDA
MAAKE
LAH
GAEJTHO
SANKO
MERASTAWHY
FAKAAUE