

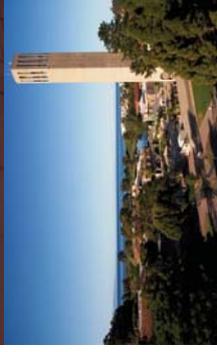
Creativity, Innovation... and how to get there from here

Prof. Christopher Keyes

Introduction

1. 'The art of lecturing'
2. Alternatives to lecturing exercise
3. Creativity and the brain exercise
4. Questions/Open forum

UC Santa Barbara (1985)
Eastman School of Music (1992)
Teaching for 25 years



Today's students will be 51 in 2050

1984



Hello UNIX!

1984



What is a 'diode'?

Today



Easy!

2050?

“Education should prepare young people for jobs that do not yet exist, using technologies that have not yet been invented, to solve problems of which we are not yet aware.”

- Richard Riley
United States Secretary of Education
under President Bill Clinton

How to do this?

‘The Art of Lecturing’

‘A well-delivered lecture in a well-structured course is truly a thing of beauty, difficult and rare.’

'A well-delivered lecture in a well-structured course is truly a thing of beauty, difficult and rare. It also doesn't work, even when it's great, for most students most of the time.'

89 - Andrew Hamilton

Recall 25% 3 hours afterwards...

...10% to 20% after three days (Edgar, 1969)

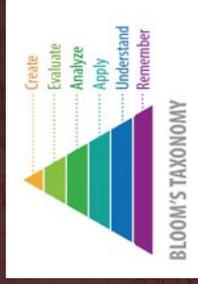
Capture 20–40% of main ideas (Kiewra, 2002)

Remember <10% after three weeks... (Bligh, 2000)

Approximately 60% forgotten in 24 hours (McCleish, 1976)

...studies in native language learners (US)

- ...and this is just REMEMBERING



'The Art of Lecturing'

Eric Mazure
Peer Instruction



'The Art of Lecturing'

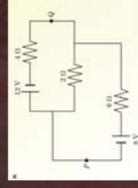
- Based on:
- the Socratic method (Flipped classroom)
 - realisation students not learning



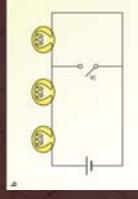
Eric Mazure:
'Confessions of a former lecturer' - YouTube



two test questions about the same thing

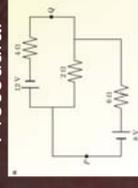


For the circuit shown, calculate (a) the current in the 2- Ω resistor and (b) the potential difference between P and Q.



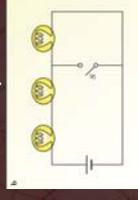
When the switch S is closed, do the following increase, decrease, or stay the same?
 a - the intensities of bulbs A and B
 b - the intensity of bulb C
 c - the rate of energy from the battery
 d - the voltage drop across each bulb
 e - the power dissipated in the circuit

Procedural



This one was easy

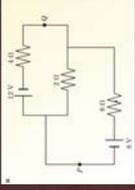
Conceptual



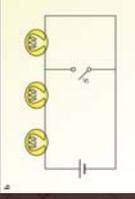
This one they failed

They knew how to get the right answer, but clearly did not understand the concept

Procedural



Conceptual

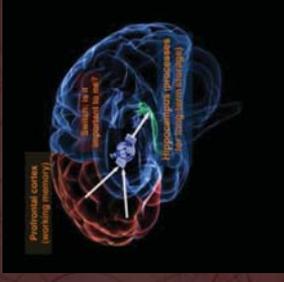


This realisation led him to abandon lecturing

"They did no better than gorilla!"

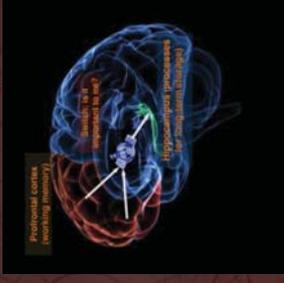
3 phases of the learning process (Schneider)

Phase 1 - is it important?

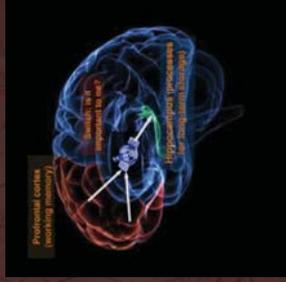


Phase 2 - make sense of it

- requires TIME

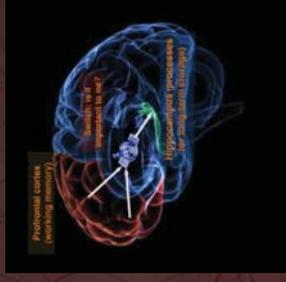


First two phases short-term processing for long-term memory



Phase 3: processing for long-term memory

- meaning and associations



The lecture format reconsidered:

Ideal rate of delivery:

varies for each individual's background each topic

for non-native language

- Hexachordal combinatoriality
- Z-related interval class vectors
- Harmonic rhythm
- Registered completion

Lectures disseminate all info. at a fixed rate for every topic

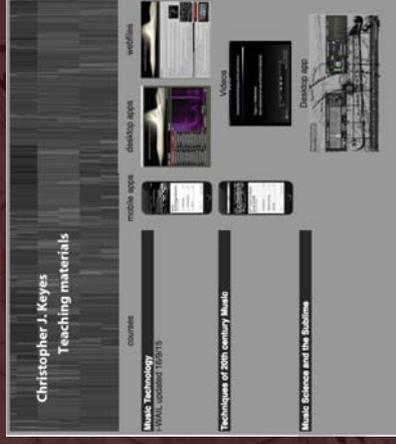
- at a fixed time of day
- in a singular language (usually)

Unlike interactive media, students cannot

- pause
- rewind
- repeat



My website



My website



Saves class time

What are my mistakes

Me preparing for a class on Compositional Techniques of the 20th Century

What are my mistakes

Pieces I think are important 100+
only cover 3 pieces/lecture

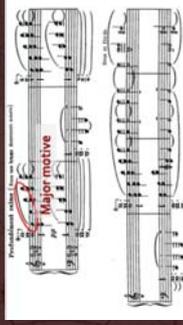
What are my mistakes

I create a syllabus

- Week 1: pieces 1 - 3
- Week 2: pieces 4 - 6
- Week 3: pieces 7 - 9etc.

What are my mistakes

'OK class, today I want to talk about Debussy's *Engulfed Cathedral*....'



What are my mistakes

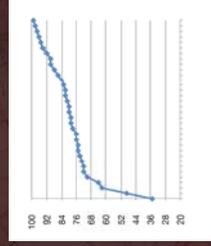
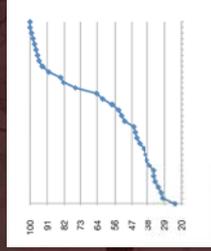
- Why assume I need to 'cover' everything?
- Whats the bigger picture/context?
- Why is this important?
- Why these pieces?

'Great piece, every musician knows it'

'If you listen for ____ you won't miss it on the listening exam'

A perfect example of impressionism, the basis of your first composition project

The new typical



'But can I get it for my phone?'

Why not?

Highly interactive content.



Students might learn more commuting to a lecture



Our content?



3-year government grant



hkbu 香港浸會大學音樂系
department of music



addressing pedagogical issues
with mobile applications.



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non-discipline specific



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