Center for Advanced Study – Food Security and Agriculture (CAS-FSA)

University of California, Davis, CA 95616, USA
University of Agriculture, Faisalabad, Pakistan

October 17, 2016

Hybrid course design and development.

James R. Carey, PhD & Thomas L. Rost, PhD

Before we get into Prof. Carey's workshop, here are a few questions that I would like to address?

1. What is the function of the university?

2. Why change the curriculum?

3. Is there a 'best' way to teach?

4. Does the use of technology in the classroom result in improved learning?

5. What is a "Hybrid" course?

6. What role does the Professor play in university instruction?

What is the traditional function of a university?

Prepare students to:

1. Be good productive citizens.

2. Have an appreciation of the diversity of the world – respect and tolerance for other people, traditions and beliefs.

3. Value the humanities and arts and science.

4. Have the skills to find an occupation.

If the university curriculum meets those goals and isn't broken, why change it?

- New directions in a subject
- New technologies
- Modernize content and approaches
- Needs assessment determines skills needed for employment

The curriculum should lead change and new trends, not follow them.

Before you jump into teaching technology: Some lessons learned.

- It always takes more time than you anticipate preparing and applying any type of technology

- You will most likely need expert assistance

- You may need to find funding

- You have to find your comfort level

- Certainly is more fun and interesting for students and it may be expected (WHY?)

One more thing to consider:
'Digital Native' vs 'Digital Immigrant'?

"Students who were born after [late] 1980['s] are often known as Digital Natives. Because of the integration of technology into their lives, digital natives are thought to be adept users of technology."
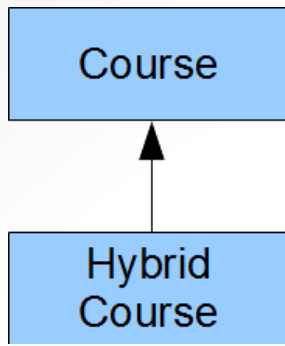
Computers, Laptops, Tablets, Facebook, Text Messaging,Twitter, Snapchat, Google, Face time, etc… Smartphone addiction!

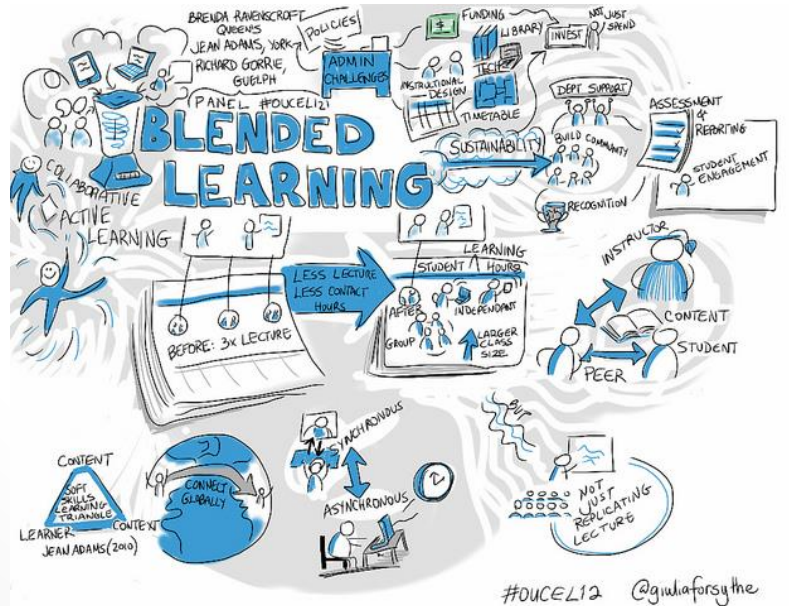Digital Immigrants were born before 1980 and often struggle with technology.

STUDENTS WILL EXPECT [DEMAND] TECHNOLOGY IN THE CLASSROOM!

- https://en.wikipedia.org/wiki/Blended_learning
- http://www.cnn.com/2012/12/04/business/digital-native-prensky/index.html
- http://bigdesignevents.com/2011/08/are-you-a-digital-native-or-a-digital-immigrant/

So, what about 'Hybrid Courses'?

First of all – definitions: Hybrid Learning or Blended Learning

1. …first developed in the 1960s, …current form until the late 1990s.

2. … part through delivery of content and instruction via digital and online media…

3. … "blended learning," "hybrid learning," "technology-mediated instruction," "web-enhanced instruction," and "mixed-mode instruction" are often used interchangeably

4. In 2006, *Handbook of Blended Learning* by Bonk and Graham. Definition:

"blended [HYBRID] learning systems" "combine face-to-face instruction with computer mediated instruction."

I would expand that definition to include the application and use of any type of technology to supplement instruction.

https://en.wikipedia.org/wiki/Blended_learning
http://www.nvcc.edu/hybrid/student/definition.html

Does the use of technology in the classroom make a measurable difference?

-Some studies say it doesn't make a difference in learning.
The "No Significant Difference" Phenomenon [1996] (Thomas Russell -North Carolina University --- http://www.nosignificantdifference.org).

-Some studies indicate it does make a difference
D.A.Oblinger and B.L. Hawkins. 2006. The Myth about No Significant Difference "Using Technology Produces No Significant Difference." EDUCAUSE Review. 41 : 14-15.

 "... compared to online learning, blended learning is a positive impact on academic success..." Usta (2007)

"...blended learning has had positive effect on active participation of students in courses and development of students' motivation towards the course." Sarıtepeci and Yıldız (2013)

So what we can say about the use of technology and hybrid learning in the classroom is that it might improve learning, at least it won't hurt, and Native Digital students will expect it.

Something Personal:
What is the role of the instructor?
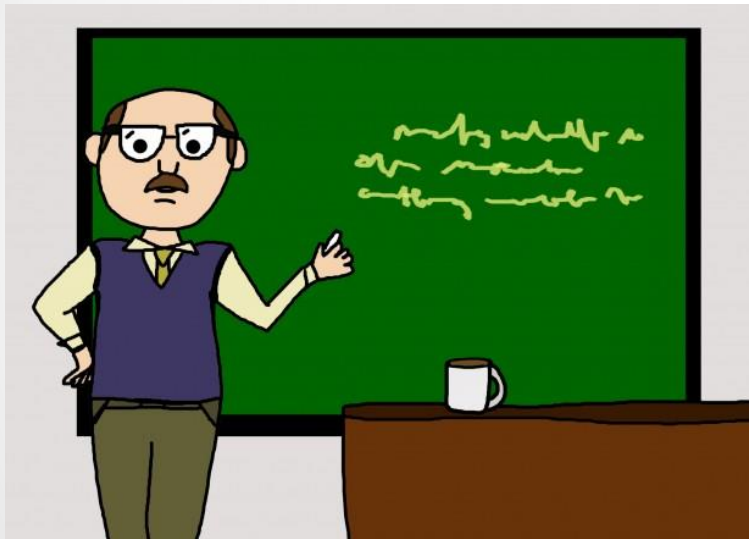
DISSEMINATE? ←——→ MOTIVATE?

AN OLD BUT DEFINING EXPERIMENT

- I started as an Assistant Professor at UC Davis in September 1972

- Fall term - UC Davis – 1974 – with the assistance of a graduate student, Jay Davison, conducted an experiment in class ~100 students

  -- 4 laboratory sections

Applied – the Personalized System of Instruction (PSI) teaching method developed by *Keller & Sherman (1974)*

Keller, F. S., and Sherman, J. G. (1974). The Keller Plan handbook. Menlo Park, CA.: W. A. Benjamin.

Personalized System of Instruction (PSI) -- *Keller & Sherman (1974)*

Main components:

- Proctors (Trained undergraduate students worked with small groups in laboratory, Facilitated study groups, and corrected quizzes and exams in-person)

- Mastery grading (Grading scheme pre-announced)

- Study objectives (What every student is expected to know.)

Keller, F. S., and Sherman, J. G. (1974). The Keller Plan handbook. Menlo Park, CA.: W. A. Benjamin.

QUESTIONS:

1. WHAT IS THE ROLE OF THE LECTURE (i.e. the Professor)?

2. WHAT ARE THE CRITICAL COMPONENTS OF THE PSI FORMAT?

3. SECTIONS COMPARED ON THE BASIS OF ---

   a. CONTENT LEARNING AND RETENTION
      Pre-test, final exam and Post-test five months later

   b. CHANGE IN ATTITUDE
      UCD psychology dept. - attitude measures - pre-test and observations during the course

STANDARD COMPONENTS:

1. ALL STUDENTS WERE GIVEN <u>STUDY OBJECTIVES</u>.

2. RANDOM SELECTION INTO 4 SECTIONS

3. NO SPECIAL TREATMENT BETWEEN GRADUATE AND UNDERGRADUATE STUDENTS

4. GRADING --- PRE-ANNOUNCED EXPECTATIONS

5. WEEKLY EXAMINATIONS -- ORAL, WRITTEN, PRACTICAL

6. SLIDE SHOWS, AUTO-TUTORIAL MODULES, LABORATORIES

7. IN-PERSON GRADING AND FEEDBACK

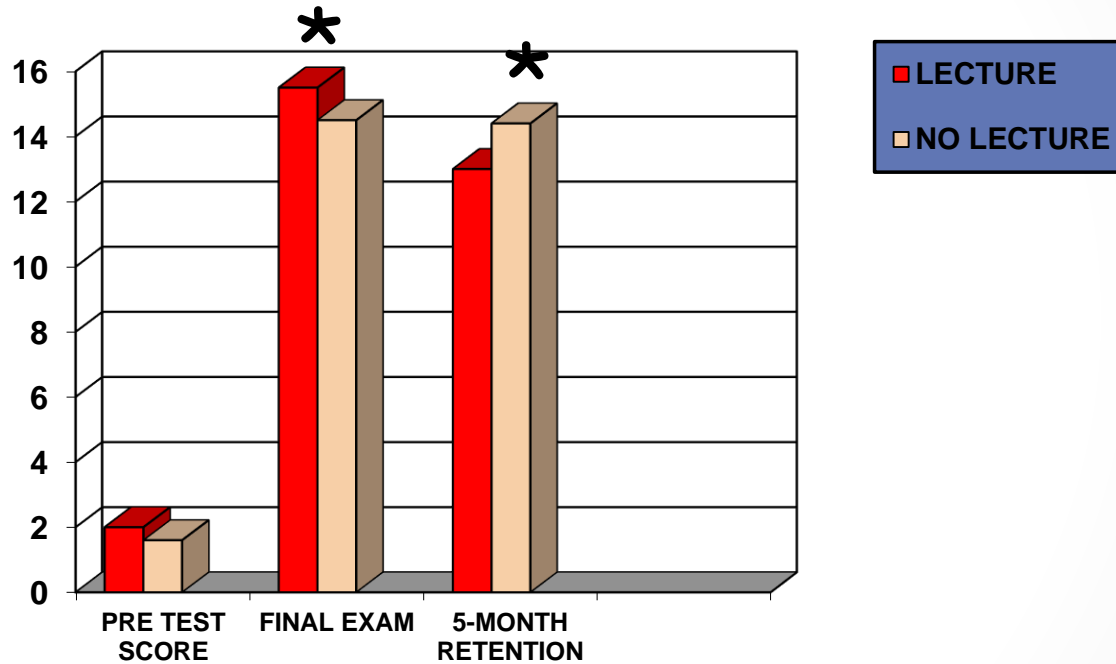8. ALL LABORATORIES WERE LED BY A GRADUATE STUDENT TEACHING ASSISTANT.

Treatments:

1. Three lectures per week (+L),No proctors (-P)

2. Three lectures per week (+L), Proctors (+P)

3. One topic seminar each week (-L), No proctors (-P)

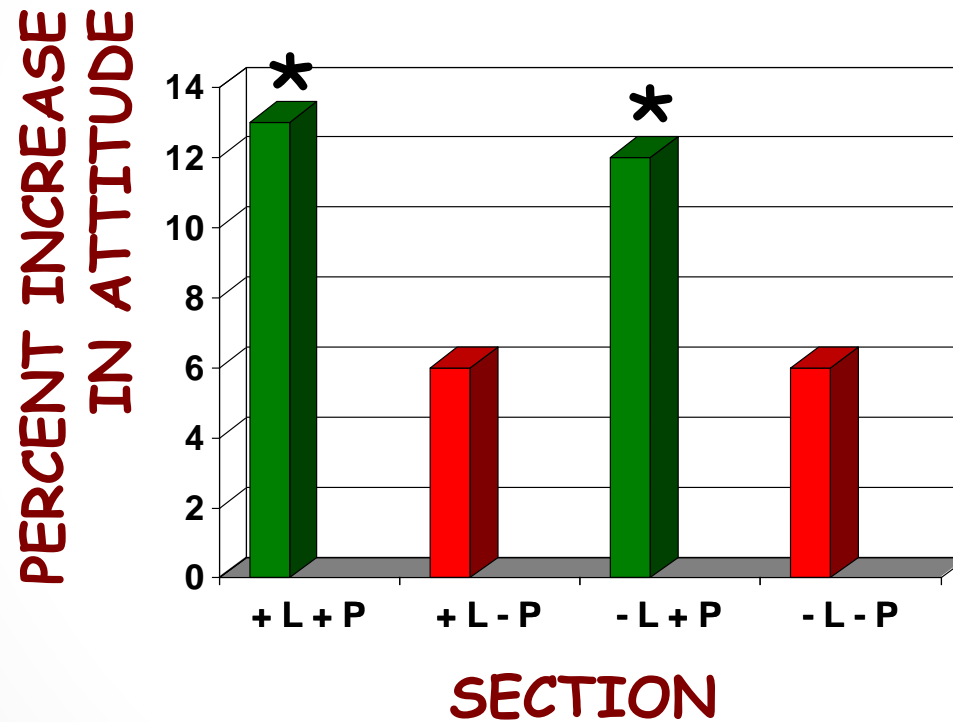4. One topic seminar each week (-L), Proctors (+P)

CONTENT LEARNING COMPARISON WITH AND WITHOUT LECTURES

PERCENT INCREASE IN ATTITUDE

CONCLUSIONS:

1. LECTURES DID NOT IMPROVE CONTENT LEARNING.
(*MOST IMPORTANT ROLE FOR THE LECTURE IS TO MOTIVATE.*)

2. THE PRESENCE OF PROCTORS IN THE LABORATORY CONTRIBUTED TO AN IMPROVEMENT IN ATTITUDE.
(PERSONAL ATTENTION IMPROVES STUDENT ATTITUDE.)

note: GRADUATE STUDENTS IN THE CLASS WERE UNAFFECTED BY ANY TREATMENT. (TEND TO BE SELF-MOTIVATED)

Davison, J.C. and T.L. Rost. 1976. Effects of various components of the Keller system on student attitudes and performance in plant anatomy. AIBS Education Review 5(1): 4-6.

ARE HYBRID COURSES THE FINAL ANSWER?

- I DON'T THINK THERE IS ONE METHOD THAT WILL ANSWER THIS QUESTION.

- IT DEPENDS ON THE INSTRUCTOR AND HER / HIS COMFORT ZONE AND WILLINGNESS TO USE TECHNOLOGY.

- BUT IT IS VERY CLEAR THAT NATIVE DIGITAL STUDENTS EXPECT TECHNOLOGY IN THE CLASSROOM.

- AND THAT PERSONAL APPROACHES TO INSTRUCTION IMPROVE STUDENT ATTITUDES AND MOTIVATE THEM TO LEARN.

Professor Carey