



Navigating Online Challenges in Educational Institutions

Learning experiences from the world's COVID-19 ground zero, New York and its abrupt shift to remote teaching-learning happened.

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 NOCEI Webinar
 July 20, 2020

Academic Journey






Why are we here today?

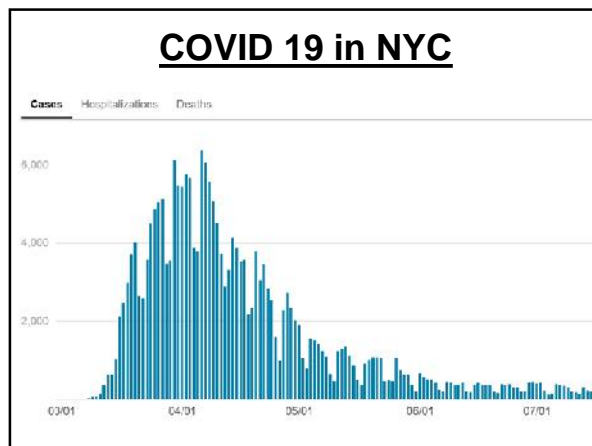
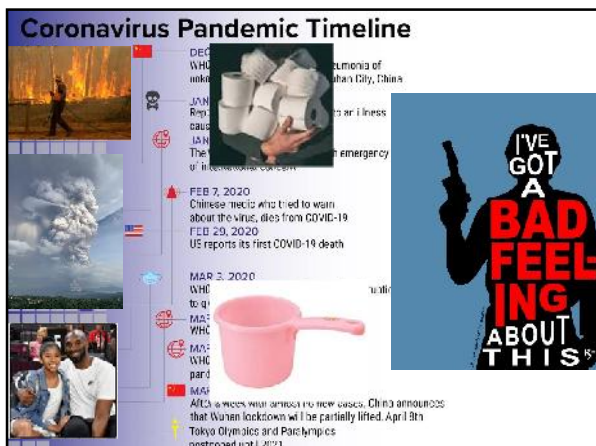
Experience is the hardest kind of teacher. It gives you the test first and the lesson afterward.

Oscar Wilde



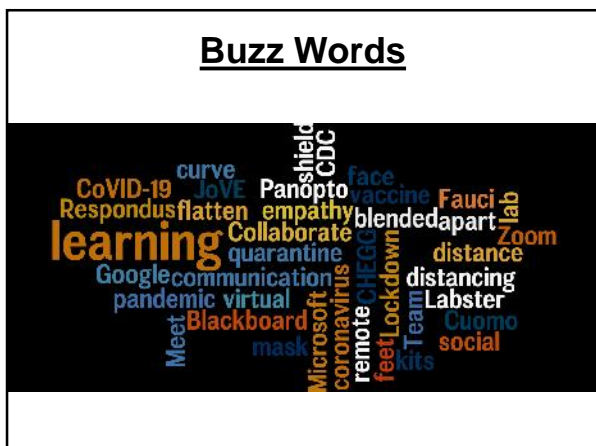
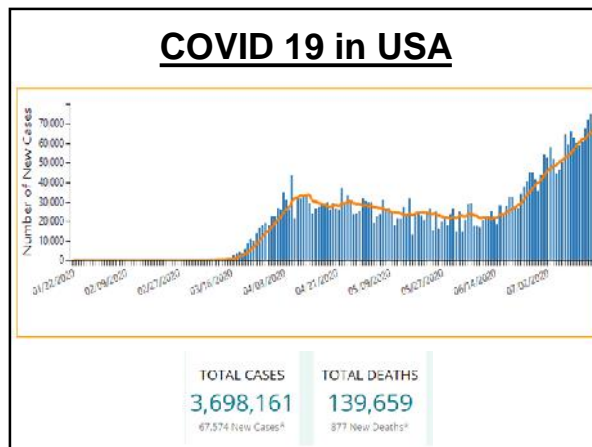
Experience is one thing you can't get for nothing.

- Oscar Wilde



NYC Covid 19

Cases	218,159
Hospitalizations	55,707
Confirmed deaths* Deaths following a positive COVID-19 laboratory test	18,776
Probable deaths Cause of death reported as "COVID-19" or equivalent, but no positive laboratory test	4,624
Updated:	July 19, at 1 p.m.



- ### Questions Pondered
- How are we going to prepare for the new normal?
 - How are we going to prepare for the flexible (blended/remote/distance/online) learning?
 - Are we ready for this mode of teaching?
 - How are we going to do the laboratory class?
 - How will students react to this mode of teaching?

Spring and Summer 2020



Spring 2020
Gen Chem I lecture T-R
Gen Chem II lab W
Instrumental Method lab M

Summer 2020
Gen Chem I lecture & lab



Spring 2020
Gen Chem II lecture S
Instr Method F
Summer 2020
Instrumental Methods

Class Transition



- Suspended research activities

- Lecture transition is easier

- Laboratory a little bit challenging



Research Activities



Research Activities

- All physical research activities were suspended since classes were suspended.
- Cancelled some of our presentations (ACS in Philadelphia).
- Three students were able to finish their thesis.
- At present, computational calculations and processing of data are the main focus of our research.

Lecture Class

- Zoom vs Blackboard
- Held synchronous class
- Recorded sessions are made available
- Posted recorded short slides for problem solving.
- Met in Zoom for office hour.
- The challenge is how to make them more engage during class.



Teacher's Poem During Pandemic



I will teach you in a room.
I will teach you now on Zoom.
I will teach you in your house.
I will teach you with a mouse.
I will teach you here and there.
I will teach you because I care.
So just do your very best.
And do not worry about the rest.

Lecture Class Problems

- Not all are attending classes
- Assessment
- Cheggging
 - All questions in test banks are available online.
 - Exam score inflation (57 to 82 then 60 and 62).
- Respondus Lockdown



Chegg®

Laboratory Class Options

Options for Laboratory Classes

- did not do labs
- virtual labs/simulations
- home-based experiments
- used videos related to experiments

Objective is to make laboratory useful to reinforce the concepts discussed in lecture.

Virtual Labs (Fee)



Simulations (Free)



Apps on Physics

Simulations

<https://libguides.mines.edu/oer/simulationslabs>



HPLC simulations:

<http://www.multidlc.org/hplcsim/hplcsim.html>

Mass Spec simulations:

<http://svmsl.chem.cmu.edu/vmsl/default.htm>

IR simulations:

http://www.cheminfo.org/Spectra/IR/Exercises/Browse_Spectra/index.html

Home-Based Experiments

- Commercially available lab kits in combination with household items, provide the means to conduct experiments at home on a smaller scale and without the need for expensive equipment.
- You can also develop your own.
- Safety issues?
- Legal liabilities a big problem here in the US.

Videos Based On Experiments

Best option that we have

- Have used videos to reinforce lecture and laboratory

The screenshot shows the ACS Publications website interface. The article title is "Videotaping Experiments in an Analytical Chemistry Laboratory Course at Pace University" by Elmer-Rico E. Mojica and Ricardo C. Uppinade. The article is part of a chapter with 16 pages. The interface includes navigation buttons like "RETURN TO BOOK", "PREV", "CHAPTER", and "NEXT". There are also icons for "View", "Print", and "Export". The article is categorized under "Videos in Chemistry Education Applications of Interactive Tools" and "Diagrams 7, cap 93136".

Videos Based On Experiments

- Lot of videos available in YouTube and we were able to use them for our Gen Chem lab courses and my instrumental analysis lab courses.
- Watching videos is different than doing hands-on lab.
- However, results from a study show that the lack of a hands-on experience did not negatively affect the performance of the online students (Abdel-Salam et al, 2006).

Abdel-Salam, Kauffman, & Crossman *European Journal of Engineering Education*, 2006, 31(6), 747-756

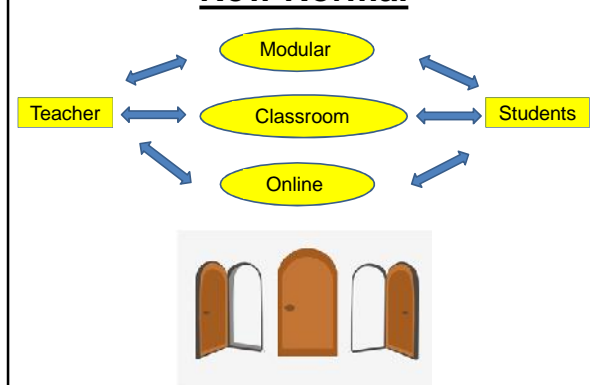
Designing Lab Experiments

- What do students need to learn from lab courses?
- What is the most important thing the students need to know in a given experiment?
- How are you going to know if they learned?
- Apply "begin the end" concept (backward design).
- Modify the learning outcomes.
- Focus more on data processing/analysis and interpretation, communication (writing) skills and use of imagination (design experiments).

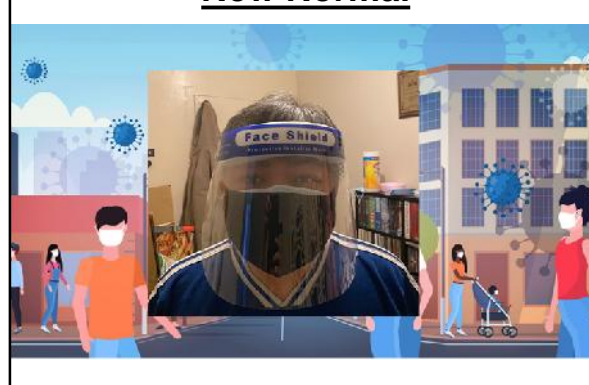
Invitation

The invitation poster is for a webinar titled "#CASLearnsAsOne Webinar 6" featuring Dr. Elmer-Rico E. Mojica. The webinar is hosted by Southern Luzon State University, College of Arts and Sciences, Ibañez, Quezon. The date and time are Friday, July 24, 2020, from 10:00 to 11:50 AM via Zoom. The poster includes a portrait of Dr. Mojica and the theme "Teaching Science Courses with Laboratory Classes for Remote Learning".

New Normal



New Normal



ADOPTION OF VARIOUS LEARNING DELIVERY IN EDUCATION

FACE TO FACE
WHERE LIMITED NUMBER OF LEARNERS GO TO SCHOOL

HOME SCHOOL/STUDY
PROVIDES LEARNERS WITH LOCAL ACCESS TO QUALITY CLASS EDUCATION AT HOME TO BE FACILITATED BY TEACHERS, PARENTS, GUARDIANS, OR TUTOR

DISTANCE LEARNING
THIS IS DELIVERED THROUGH DIFFERENT MODES: ALL ONLINE PLATFORMS OR EDUCATIONAL PROGRAMS ON TV AND RADIO (PRINTED MODULES)

BLENDED LEARNING
THIS ALLOWS FOR A COMBINATION OF FACE-TO-FACE, ONLINE, AND MODULAR LEARNING DELIVERY

EDUCATION MUST CONTINUE!

Buy to the Mode of Teaching

FLEXIBLE LEARNING

Embrace the Mode of Teaching

- modular, online, face to face or blended

PACE UNIVERSITY

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Summer 2020
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YORK College

Spring 2020
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Instrumental Methods

Remote/Distance vs Online

Prof. Jason Wrench, SUNY New Paltz

Online Learning vs. Remote Learning

	Online Learning	Remote Learning
Intent	Planned	Emergent, Crisis
Development Timeline	1 to 2 Years Prior	ASAP, Immediately
Instructional Development	Intentional & Guided	Haphazard & Emergent
Focus	Online Andragogy	Academic Attainment
Trainer Focus	Content and Andragogy	Content and Delivery
Andragogical Focus	Best Practices for Online	Best Practices for Crisis
Learner Focus	Engagement & Attainment	Attainment

<https://www.td.org/user/content/jasonwrench/online-learning-vs-remote-learning-04-22-20-03-50>

Choose the LMS to be used

- Distance learning toolbox
- An LMS is a tool that manages the processes of creating, hosting, distributing, and assessing training sessions. The tool allows trainers to host different types of training content such as lessons, worksheets, quizzes, and tests.

Choose the LMS to be used



Blackboard



DESIRE2LEARN



canvas



Google Meet



Microsoft Teams

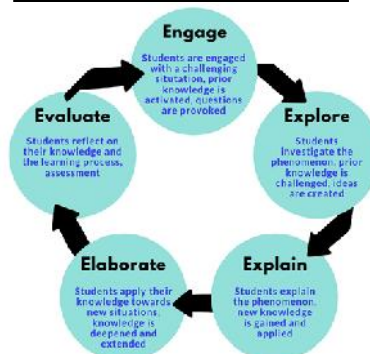


moodle

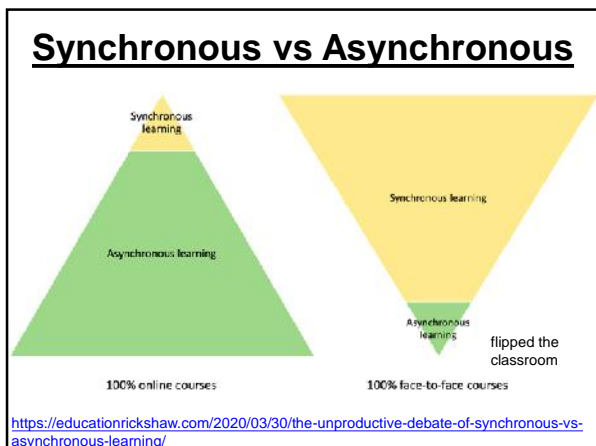


brightspace

Modules (BSCS 5E)



<https://knowledgequest.aasl.org/the-5-es-of-inquiry-based-learning/>



Synchronous vs Asynchronous

- Most students prefer the synchronous
- Use of modules would mean asynchronous
- Tap social media for synchronous activities if LMS is not available

Synchronous vs Asynchronous

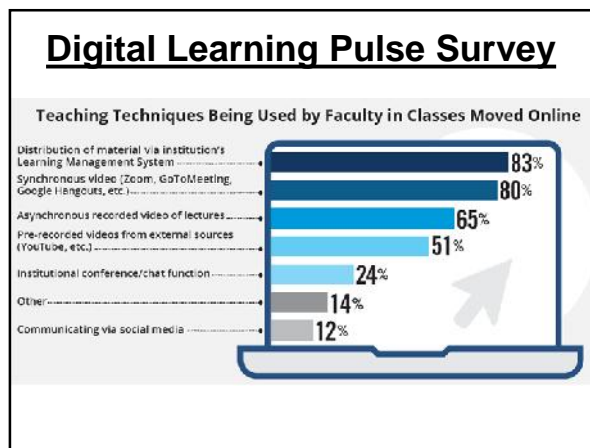
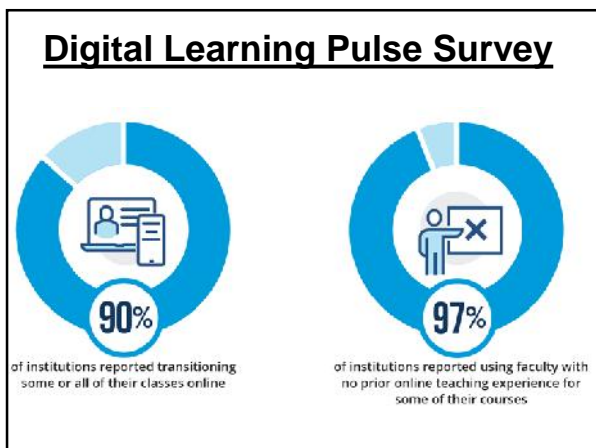
- Synchronous - class held as scheduled

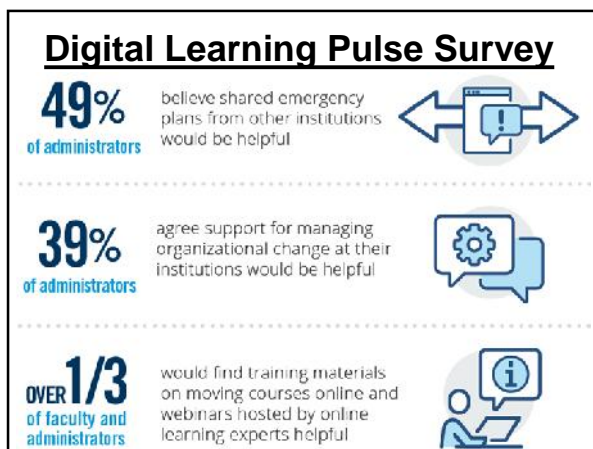
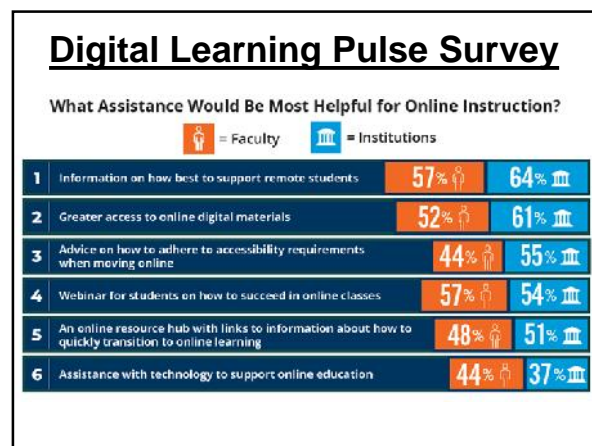
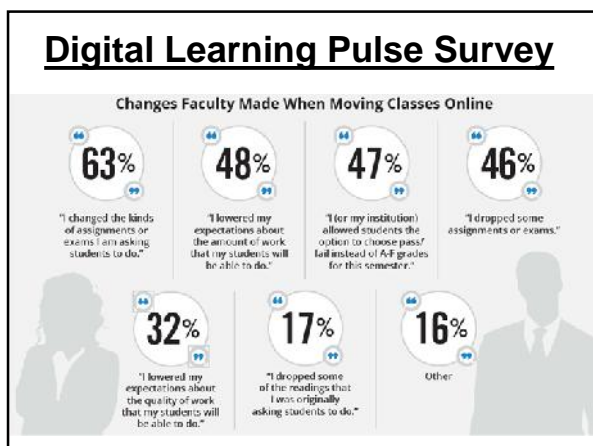
- Asynchronous
 - recording session of the class
 - additional materials were posted

<https://educationrickshaw.com/2020/03/30/the-unproductive-debate-of-synchronous-vs-asynchronous-learning/>

Assessment

- How are you going to assess your students?
- In most sciences, best way for assessment is exams
- Formative assessment over summative assessment





Connect With Students

- Establish connection with your students as early as possible.

"Great teachers focus not on compliance, but on connections and relationships."

- PJ Caposey in Education Week Teacher

Ask for Help

- Chemistry faculty unite

Strategies for teaching chemistry online
Private group · 3.1K members

We Are All Together

- Explain to them why we have this present set-up.

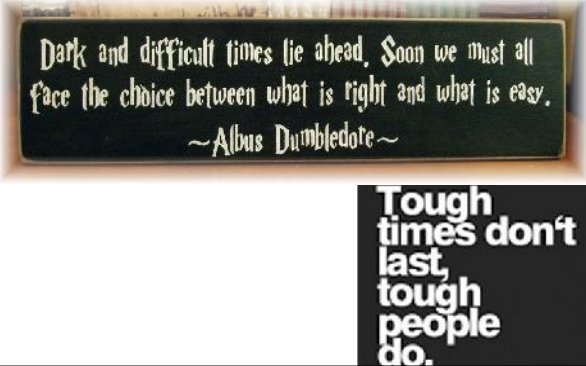
Coming together is a beginning; keeping together is progress; working together is success

HENRY FORD

When "I" replaced with "We", even the illness becomes wellness.

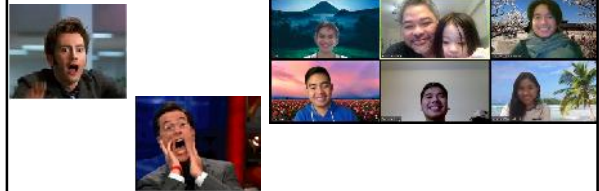
— Malcolm X —

Tough and Difficult Times



By the End of Semester

- Felt “stressed out” (most stressful semester)
- Felt helpless (constant fear)
- All efforts are worthwhile after reading student evaluations



Constant Communication

- Stay in contact with your students by giving feedbacks to their inputs.

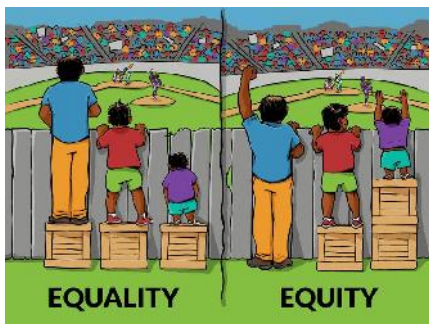
A good relationship requires two constants: **constant communication** and **constant sacrifice.**



Practice Empathy

Empathy is...
 seeing with the **eyes** of another,
 listening with the **ears** of another,
 and feeling with the **heart** of another.

Practice Equity



Take Home Message

- There is no easy solution to our current set-up.
- Student goals will take center stage.
- Find positives in the current situation.
- Plan, plan, plan.
- Alternatives to high stakes assessments.
- Mental issue is a real thing.

Advise with Beatles Songs

Do You Want To Know A Secret? I Should Have Known Better

Yesterday Here, There and Everywhere Long, Long, Long

Long and Winding Road From Me to You Get Back

Carry That Weight I Am So Tired It's All Too Much

A Hard Day's Night Eight Days A Week Don't Let Me Down

You Never Give Me Your Money I Want To Tell You

With A Little Help From My Friends We Can Work It Out

All Together Now No Reply Misery Let It Be Wait Help!

All You Need Is Love Come Together Getting Better The End

The love you take is equal to the love you make

Acknowledgements

- Dr. Milano O. Torres
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Maraming Salamat!

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