

Welcome to the Virtual New Faculty Workshop



ACS
Chemistry for Life[®]



#ChemNFW2020

If using this document asynchronously, it is best viewed in presenter mode to preserve animations

Effective Events in Virtual Environments

- For large sessions:
 - Please be on time - we cannot assign you to a room when you are not logged into the meeting
 - Please mute yourself in the main room unless contributing to the conversation
 - If you need to step away, mute yourself and turn off your video; please turn it back on when you return
 - Use the chat to join the conversation - we will call on you
 - Raising your hand is not effective when participants span multiple screens as we cannot see everyone at one time
- In small breakouts:
 - Introduce yourself
 - Leave your mic on to keep the conversation spontaneous unless there is background noise
 - If you find yourself in the wrong place during a breakout session, return to the main room so that we can help get you where you need to be
 - Resources will be on Google Drive for each breakout

Respect and Safe Environment for Dialog

- Please share the speaking time with your peers
- Please respect the opinions and comments of your peers, there are no stupid questions and if you are wondering about it, most likely several others in the room are too
- Individuals come to the workshop with different levels of training and different life experiences; please value these differing voices and opinions

Navigating the Google Drive Folder

- READ ME FIRST DOCUMENT
- Links for each day's events
- Folder structure
- Use the google drive for working documents that you wish to collaborate on with peers and facilitators

Poll Everywhere Access

- Please use any device (e.g. computer, iPad, smart phone, etc.) and navigate to <https://pollev.com/andrewfeig335>
- You may also join by texting **andrewfeig335** to **37607**
- If you are having trouble accessing the site, enter questions in the chat box
- We will use this system while you are in the breakout rooms. Please keep the connection open and watch the broadcast alert for when to respond in Poll Everywhere.

Being a new faculty member



Help in overcoming barriers to success

Oh crap.

While Feig was talking, I was distracted by my dog who was helping himself to treats off the kitchen counter

Three jobs

Leader (latest birthday in the year)

keep group on task & insures all voices are heard.

Recorder (mid-year birthday)

gets the ideas down and organized

Reporter (earliest birthday)

presents ideas

Three tasks

1. Five barriers to success for junior faculty
2. How is each thing a barrier
3. Identify one approach to how you personally will work to overcome one of these barriers.

Debrief Notes

- Notes will be entered here during debrief

Agenda

Tuesday: noon – 4:15 Eastern Time

- 1) Introduction to Workshop
- 2) Introduction to Active Learning
- 3) Active Learning Strategies
- 4) Assessment
- 5) Wrap-up

Wednesday: noon - 4:30 Eastern Time

- 1) Equity in virtual education environments
- 2) Preparing Teachable Tidbit 1 topic selection and learning objectives
- 3) Preparing Teachable Tidbit 2 assessment and activity development

Thursday: noon - 5 pm Eastern Time (drop in as desired)

- Asynchronous working environment
- Networking time (GatherTown)

Agenda - Part 2

Friday: Noon - 5:15 pm Eastern Time

- 1) Online/Virtual Labs**
- 2) Time Management**
- 3) Trial Run of Teachable Tidbits**
- 4) Debrief**
- 5) Group Building**

Monday: Noon - 4 pm Eastern Time

- 1) Program Officer Breakout rooms**
- 2) Writing Proposals Panel Discussion**

Tuesday: Noon - 3 pm

- 1) reprise of revised Trial runs**

Teaching vs. Learning



Difference between teaching and learning

"I taught them that"



"I think it's an exaggeration, but that there's a lot of truth in saying that when you go to school, the trauma is that you must stop learning and you must now accept being taught."

— Seymour Papert

Who's in the Room?

- **Cherry-pick Results from JITT Survey**

A disconnect in education

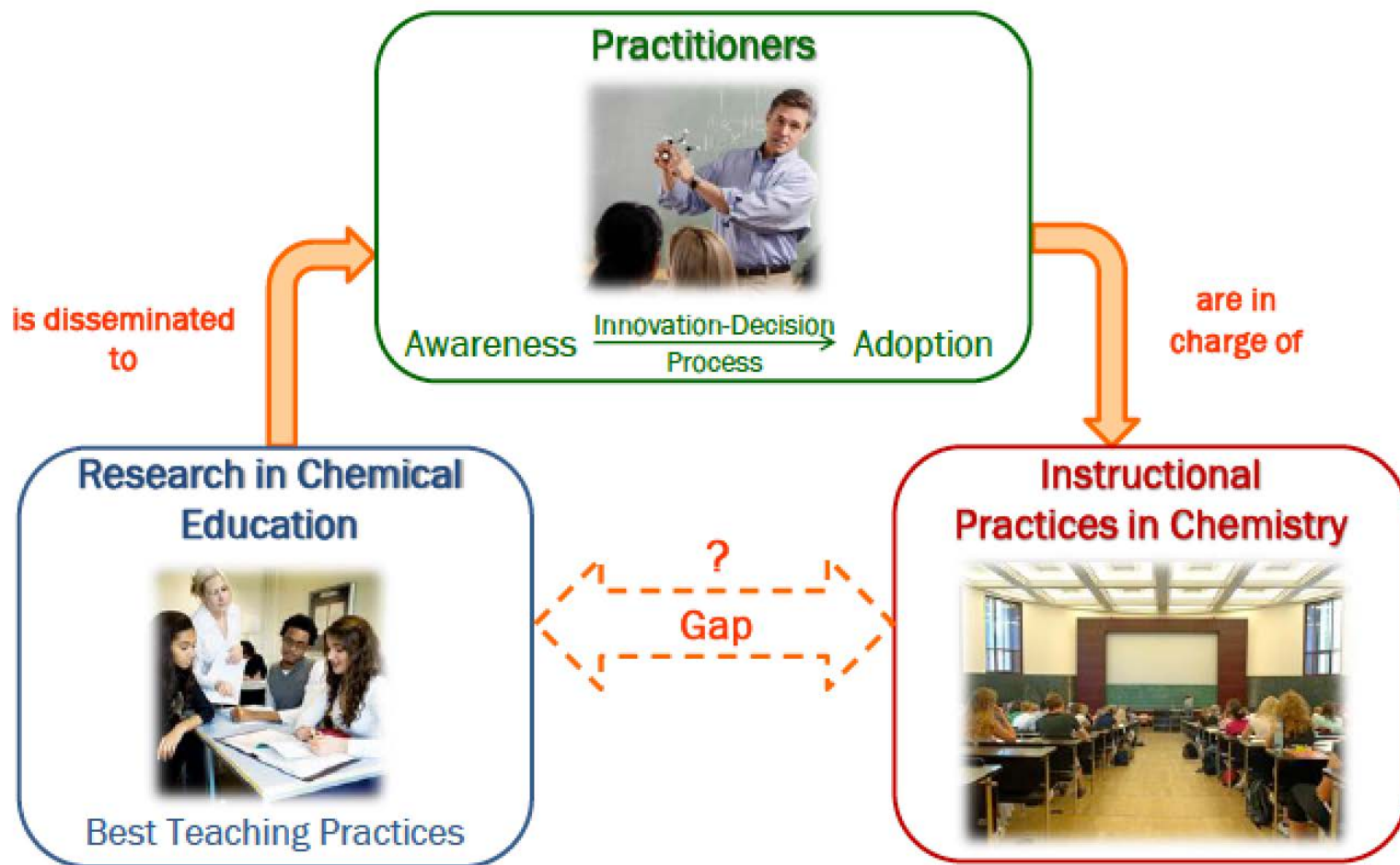


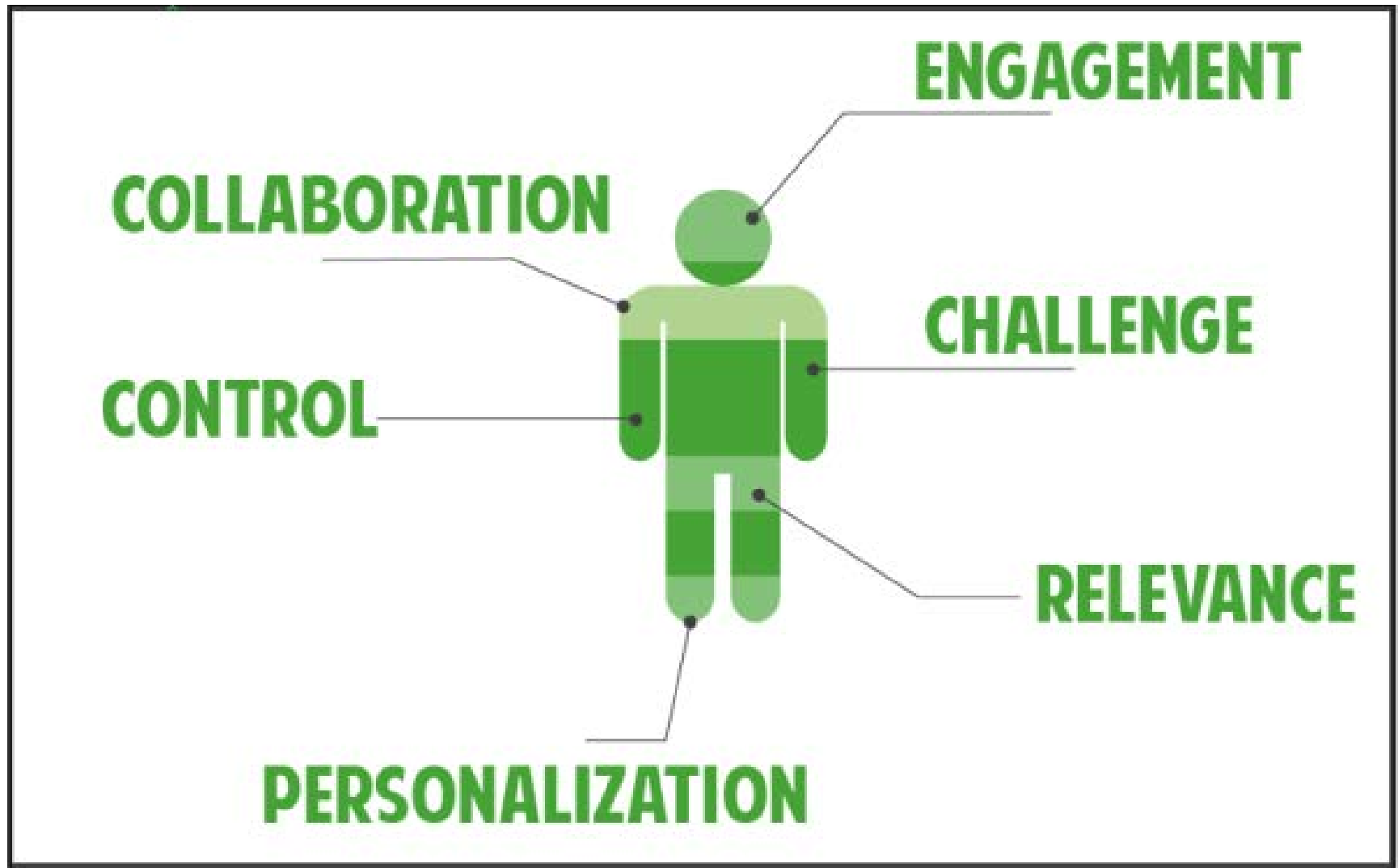
Image courtesy of Marilyne Stains, UNL

Please, sir, lecture at us more...



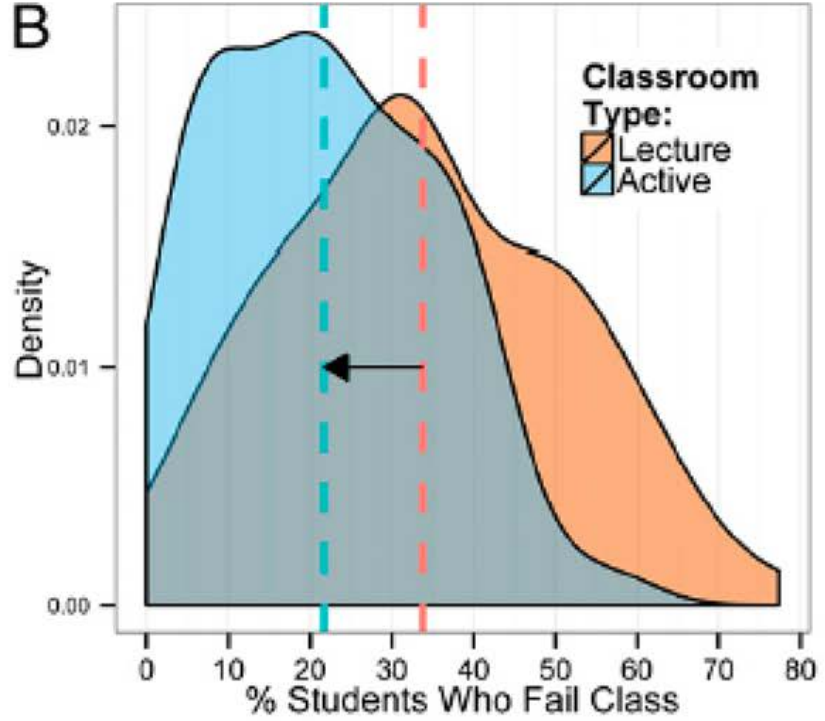
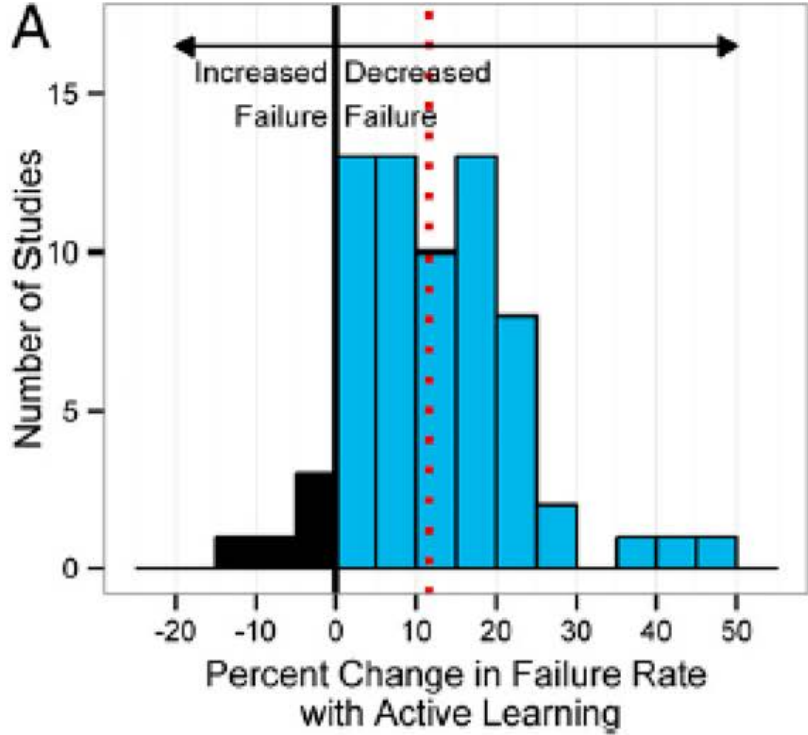
In the virtual environment, students simply pause or don't complete video assignments

Going around the bend for a minute



... this is a lot like what happens in *research*

Back to numbers and data (whew!)



Freeman S., et al. *PNAS* 2014, 111, 8410.

Students in all disciplines benefit from more active learning

A quick question:

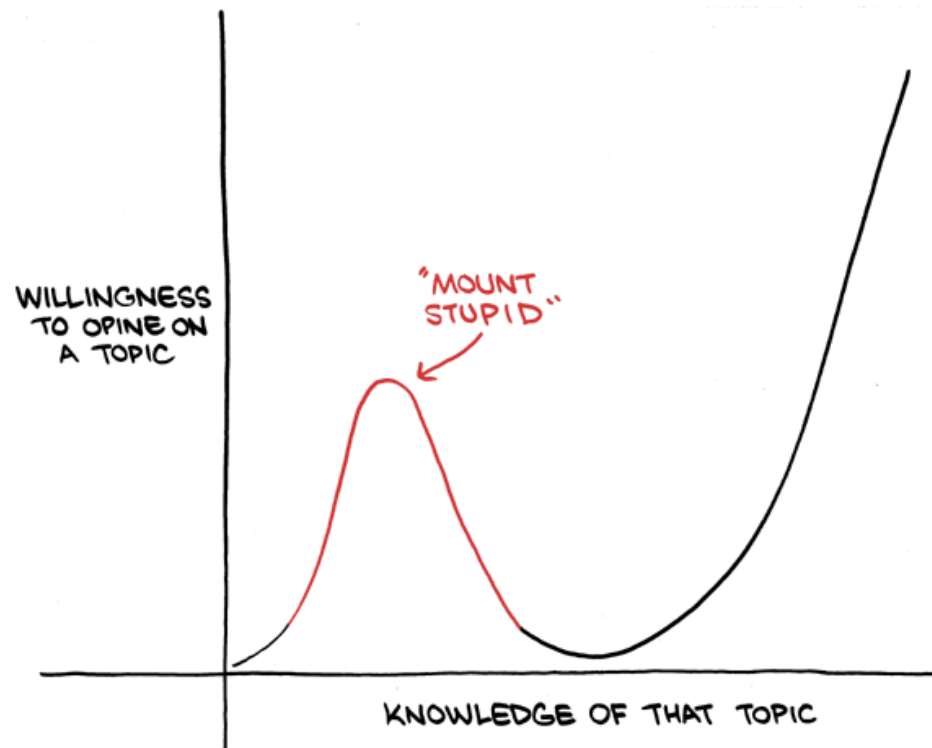
If students learn better when they are being active and that is borne out by data, why do we have passive lecture?



Solution to that problem:

"No, It's Not Your Opinion. You're Just Wrong."

Jef Rouner *Houston Press*, July 24, 2015.



Dunning-Kruger effect

Here's the rub



Image: AFP

New **faculty** teach ***defensively***...to avoid student complaints.

Boice, R. *The New Faculty Member*, San Francisco: Jossey-Bass, 1992.

A note on student evaluations

New faculty teach *defensively*...to avoid student complaints.

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Studies in Educational Evaluation

Volume 54, September 2017, Pages 22-42



Meta-analysis of faculty's teaching effectiveness: Student evaluation of teaching ratings and student learning are not related

Bob Uttl  , Carmela A. White ¹, Daniela Wong Gonzalez ²

 [Show more](#)

<https://doi.org/10.1016/j.stueduc.2016.08.007>

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Lecturing... Comfort... Passivity...

Not learning.

Solution to defensive teaching:

Lots of help

Campus teaching centers

Respected teachers

Your peers (starting here)

Us

Leverage what you know already

Active Learning:

- Engagement
- Collaboration
- Student control
- Direct problem relevance
- Personalization and differentiation
- Direct and personal challenges
- Communication

Success in Research:

- Engagement
- Collaboration
- Student independence and agency
- Direct problem relevance of concepts and techniques
- Personalization and differentiation
- Direct and personal challenges
- Communication of results

You already know how to do this stuff.

This is your training. You are going to be awesome, and your students will learn, if you use your native and developed skill set in a "teaching" environment.

Defining some terms

- Discipline-based education research (DBER)
 - Evidence-based teaching methods (EBTMs)
 - Research-based instructional practices (RBIPs)
- Active learning
- Student-centered teaching

What are the EBTMs - PCAST Report

Table 2. Types of active learning that have been demonstrated to enhance learning.	
Types of active learning with feedback	Examples of studies that demonstrate enhanced learning
Small group discussion and peer instruction	Anderson et al. (2005); Armbruster et al. (2009); Armstrong et al. (2007); Beichner et al. (1999); Born et al. (2002); Crouch and Mazur (2001); Fagen (2002); Lasry et al. (2008); Lewis and Lewis (2005); McDaniel (2007a, 2007b); Rivard and Straw (2000); Tessier (2004 and 2007); Tien et al. (2002)
Testing	Steele (2003)
One-minute papers	Almer et al. (1998); Chizmar and Ostrosky (1998); Rivard and Straw (2000)
Clickers	Smith et al. (2009, 2011)
Problem-based learning	Capon and Kuhn (2004); Preszler et al. (2007)
Case Studies	Preszler (2009)
Analytical challenge before lecture	Schwartz and Bransford (1998)
Group tests	Cortright et al. (2003); Klappa (2009)
Problem sets in groups	Cortright et al. (2005)
Concept mapping	Foncesca et al. (2004); Prezler (2004); Yarden et al. (2004)
Writing with peer review	Pelaez (2002)
Computer simulations and games	Harris et al. (2009); McDaniel et al. (2007); Traver et al. (2001)
Combination of active learning methods	Freeman et al. (2007); O'Sullivan and Cooper (2003)

Note: All studies cited compare treatment and control groups. Full references are found in Appendix I.

How to make it work for everyone (including you)

Universal Design for Learning

Multiple Means of Representation

Multiple Means of Expression



Multiple Means of Engagement

WE HAVE A PLAN

Supply some background

Give you practice



Teachable Tidbit

Provide some feedback

Build your network

Agenda

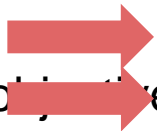
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Holy crap. What is going on here?

How our professional development activities are designed and implemented

