Cone of Experience

Watching

Virtual Experiments

Live Experiments

Advantages/Disadvantages
- Meeting learning outcomes
- Student time
- Faculty/staff development and support time
- Cost (student and university)
- Lab and technology equipment availability
- Reusability
- Scalability
- Reliability

Parts of labs or entire labs
- Instructor and Student Feedback
- Examples: Labster, McGraw Hill Connect Virtual Labs, Beyond Labz, Cengage, various websites

Pictures

Videos

Reusability
Faculty led multidisciplinary collaborative taskforce

- College of Arts and Sciences faculty & lab managers
- Innovative Education video production and learning designers
- Strategically prioritize shared resources (JoVE, Pivot, Labster, iNaturalist, custom videos, links)
- Establish a community of practice to access needs, solve instructional problems and make decisions

Discovering Resources both Internal & External

- LMS Administrators
- Technology Training team
- Librarians/Learning Resource Specialists
- Lab Managers/Faculty
- Publishers/Third Party Vendors
Discovering Resources both Internal & External

An Introduction Video: https://youtu.be/X_C-vWJDcOY

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Summer 2020 Webinar Series
Strategies for Online and Remote Lab Courses

St. Petersburg College Virtual Labs Strategies
Online transitions were decentralized, leading to various solutions:

- Video demonstration – Ceramics: https://youtu.be/v9s51LIGy5Q
- FALSC resources – Jove for Biology: https://www.jove.com/db4linccweb.org/science/education/basicbio
- Microbiology – home lab kits
- Simulations – A&P Lab – in-house simulations
- Live online guided dissection

Examples of Students’ Work:

“Handwashing”

- Students obviously couldn’t do the staining procedures in lab, so they were directed to read the textbook, watch a demo and then create a “Staining Guide”
Examples of Students’ Work:

**GRAM STAINS**

- **Staphylococcus aureus**
- **Streptococcus pyogenes**
- **Streptococcus pneumoniae**

**INFECTION**

- Infection by a fungus or bacterium
- Infection by a virus

**Biology II Lab**

Live online guided dissection

"DNA Extraction"

**Examples of student work**

- **DNA Extraction Procedure**
  1. Trypsinize the cells in 0.25% trypsin
  2. Centrifuge the cells
  3. Add proteinase K

**Biology II Lab**

Live online guided dissection

"Microbes Are Everywhere" with student sample

**pH Determination**

Click to start the pH bottle.

- Acid HCl, Basic NaOH, Unknowns

**FLVC**

IDN Summer 2020 Webinar Series

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**Infection**

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**Biology II Lab**

Live online guided dissection