Today’s Learning Outcomes…

- Get to know your 2022 Stanford Scientific Teaching Institute colleagues!
- Discuss the relationship between innovative teaching and the biological basis for learning.
- Investigate evidence that suggests changes in undergraduate STEM teaching are necessary.
- Explore principles of Backwards Design in planning courses and lessons.
- Construct a common understanding of “assessment” and its role in learning.
- Compare and contrast different forms of assessment tools for uncovering student ideas.
- Examine Bloom’s Taxonomy as a tool for evaluating and modifying assessments.
- Apply Bloom’s Taxonomy to individual class contexts.

9:00 - 9:40 Introductions: Getting to Know You…
9:40 - 9:50 Reflection: A Time to Reflect on Your Own…
9:50 - 10:00 Big Idea: Summer Institute Overview and Scientific Teaching Framework

*10 min - Bathroom Break *

10:10-10:40 A Common Experience: Keeping Your Eye on the Big Picture
10:40 – 10:55 Discussion: Content Coverage and Prioritizing Student Learning Outcomes
11:25 - 12:00 Big Idea: Problems with Undergraduate Science Education
12:00 - 12:10 Big Idea: Focusing on a Single Course & Thinking about the Future…
12:10 - 12:55 LUNCH
12:55 - 1:10 Big Idea: Using Backwards Design to Prioritize What to Teach
1:10 - 1:40 Activity: The Purpose of Assessment and the Role of Questions
1:40 - 2:15 Activity: Assessment A-Go-Go Part 1

*10 min - Bathroom and Snack Break *

2:25-3:00 Activity: Assessment A-Go-Go Part 2
3:00 - 3:30 Activity: Exploring Bloom’s Taxonomy
3:30 - 4:15 Activity: Analyzing Our Exams/Quizzes Using Bloom’s Taxonomy
4:15 - 4:30 Big Idea and Activity: Teaching Action Plans and Wednesday Posters
4:30 - 5:00 Closing & Reflection

Turn over for Resource Readings →
Resource Readings:

Today’s Learning Outcomes…
- Explore how issues of inclusion, equity, and diversity affect student learning.
- Experience how unstructured classroom environments can work against inclusiveness, fairness, and equity.
- Discuss recent inclusion research in science education and related fields.
- Self-assess current awareness of and use of common equitable teaching strategies.
- Investigate group behaviors that can influence inclusiveness, fairness, equity.

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<thead>
<tr>
<th>Time</th>
<th>Activity</th>
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<tbody>
<tr>
<td>9:00 - 9:15</td>
<td>Welcome and Reflections from Day 1</td>
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<tr>
<td>9:15 - 10:15</td>
<td>Activity: Building Mobiles Part 1</td>
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<td>*10 min - Bathroom Break *</td>
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<tr>
<td>10:25 - 11:05</td>
<td>Activity: Building Mobiles Part 2</td>
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<tr>
<td>11:05 - 12:00</td>
<td>Activity: The Invisible Variable of Instructor Talk</td>
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<td>12:00 - 12:45</td>
<td>LUNCH</td>
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<td>12:45 - 1:25</td>
<td>Activity: Exploring 21 Simple Classroom Equity Strategies</td>
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<td>1:25 - 1:45</td>
<td>Rock Stars of Science</td>
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<td>*10 min - Bathroom Break *</td>
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<td>1:55 - 3:15</td>
<td>Inclusion Research Jigsaw</td>
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<td>3:15 - 3:30</td>
<td>Videos: Final Thoughts on Inclusion Research and the Value of Diversity in Science</td>
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<td>*10 min - Bathroom and Snack Break *</td>
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<td>3:40 - 4:30</td>
<td>Big Idea: Scientist Spotlights</td>
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<td>4:30 - 4:50</td>
<td>Activity: Continuation of Teaching Action Plans</td>
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<td>4:50 - 5:00</td>
<td>Closing &amp; Reflection</td>
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Turn over for **Optional Pre-Reading** and **Resource Readings** →
→ Optional Pre-Reading:

→ Resource Readings:
Today’s Learning Outcomes…

- Construct a common understanding of “active learning.”
- Experience and evaluate different amounts of time required for integrating active learning into a lecture.
- Use the 5E model to analyze and modify a class session, identifying opportunities for active learning.
- Applying active learning strategies to individual class contexts.
- Reflect on how the Summer Institute is and is not likely to influence our professional work.
- Compose a plan for implementing small changes in our professional work based on Scientific Teaching.
- Set expectations for future activities and create individual plans.

9:00 - 9:10  Welcome and Reflections from Day 2
9:10 - 9:25  Brainstorm and Video: What Can Active Learning Look Like in a Lecture?
9:25 - 10:35 Activity: Active Learning in 1, 5, 10, and 20 Minutes During a Lecture

*10 min - Bathroom Break *
10:45 - 11:05  Activity: How to Thoughtfully Integrate Active Learning
11:05 - 11:20  Mini-Lecture: The 5 E’s
11:20 - 11:30  Activity: Assigning E’s to an Individual Class Session
11:30 - 11:40  Discussion: Strategies for Using the 5E Model to Iteratively Change a Lesson
11:40 - 12:00  Activity: Tweak Your Lesson!
12:00 - 12:30  Activity: A Self-Assessment Tool for Active Learning
12:30 - 1:25  LUNCH and Group Photo
1:25 – 2:05  Carousel Graffiti: What Will You Use in Your Classroom?

*10 min - Bathroom and Snack Break *
2:15 - 2:50  Poster Creation
2:50 - 3:55  Poster Session
3:55 - 4:15  Final Reflection
4:15 - 4:40  Celebration & Closing
4:40 - 4:45  Final Announcements

Turn over for Resource Readings →
→ Resource Readings:


