Assessment for Year 1 Regional Workshops:

Strengths: What were the strengths of this session?
- Learning more about the history/goals of the Grant.
- Keynote speakers were engaging & informative.
- Seeing how the construction of core concepts broken down into the three activities: transform, unpack, concept.
- Having the opportunity to meet other people in the field and geographic area (networking).

Improvements: How would this session be improved?
- I would have felt that the time spent on task would have felt more productive if we had moved onto task 2.
- Identify from other disciplines.
- I'd like to continue to talk about developing these core concepts & what we'd expect to see in proficiency & I'd like to stay engaged.

Insights: What insights did you have about teaching and learning during this session?
- I liked the idea of breaking down learning objectives into performance expectations & necessary knowledge statements, I suspect this will make things more clear to students & focus my efforts accordingly.
- I also like the idea not to assume that targeting non-majors requires trivialization or lack of rigor. I will think about the content/concept tradeoffs more carefully.
One Additional Survey Question

What topics do you find particularly difficult to teach or for students to understand?

Gene Gene Interactions
Epistasis
- Regulatory networks
  - e.g., inhibiting an inhibitor can result in activation
- Biochemical pathways
Assessment for Year 1 Regional Workshops:

Strengths: What were the strengths of this session?

- Great engaging Speakers
- Good conversation about relevant topics

Improvements: How would this session be improved?

- Need more time to get objectives accomplished
- It would be really productive to call back the same people to work on all the activities 2 & 3
- The goals require "slow thinking" - need more time

Insights: What insights did you have about teaching and learning during this session?

- Teaching is really hard
One Additional Survey Question

What topics do you find particularly difficult to teach or for students to understand?

1. Central dogma (easy to teach, genotype -> phenotype) but hard for students to learn.

2. Protein structure -> function leads to physics.
Assessment for Year 1 Regional Workshops:

Strengths: What were the strengths of this session?

Meeting like-minded people who care about instruction in biochemistry and Molecular Biology.

Improvements: How would this session be improved?

Keep on time. Use active learning methods to teach principles.

Insights: What insights did you have about teaching and learning during this session?

Assessing student learning is very difficult.
One Additional Survey Question

What topics do you find particularly difficult to teach or for students to understand?
Assessment for Year 1 Regional Workshops:

Strengths: What were the strengths of this session?

I enjoyed the talks by Mike & Rolf. They were very informative. Discussions were helpful. It was nice meeting others who teach similar courses & at similar institutions.

Improvements: How would this session be improved?

stick to the schedule. I was disappointed that we never got to the 2nd & 3rd group activities. Although discussions were nice I would have preferred more productivity - determining goals, disciplines, etc., also spend more time "perfecting" our complete sentences as one group.

Insights: What insights did you have about teaching and learning during this session?

Enjoyed learning about research-oriented lab classes, theories discussed by Mike about the "psychology" of learning.
One Additional Survey Question

What topics do you find particularly difficult to teach or for students to understand?

certain molecular biology techniques to analyze data.
many genetics topics like linkage, recombination frequencies.
interpreting results from gels, determining expected fragments on a gel after digesting a plasmid, etc.
Assessment for Year 1 Regional Workshops:

Strengths: What were the strengths of this session?
- People were respectful when sharing ideas, questions, and comments.
- [food was delicious] thank you.
- Presentations were clear, and presenters were open to receive and answer questions.

Improvements: How would this session be improved?
- Presentations of speakers could be shorter and leave more time for discussion.
- No heater, today was a little bit cold.
- You could have some speaker from the field of science education with background in Ed. So, you could complement his or her knowledge with people or speakers with a science background.

Insights: What insights did you have about teaching and learning during this session?
- Narrowing core ideas may be difficult when discussing it within a group of people.
One Additional Survey Question

What topics do you find particularly difficult to teach or for students to understand?

- this is not directly related to science, but it is difficult to have them to read with understanding, to interpret & read graphs & scientific articles, it is not an easy task to teach & learn academic literacy.
Assessment for Year 1 Regional Workshops:

Strengths: What were the strengths of this session?

- lots of discussion
- small
- passionate & opinionated people
- great presentations

Improvements: How would this session be improved?

- keep everything on time

Insights: What insights did you have about teaching and learning during this session?

- liked "research"-based projects in the classroom
  will try to design one myself
One Additional Survey Question

What topics do you find particularly difficult to teach or for students to understand?

- size of DNA in comparison to the size of nucleus/cell (compaction)
- epigenetic gene regulation
- transposition = dynamics of the genome
Assessment for Year 1 Regional Workshops:

Strengths: What were the strengths of this session?

great group discussions! Strong speakers.

Improvements: How would this session be improved?
The small groups could've been a little bigger. (i.e. groups of 5 or 6)

Insights: What insights did you have about teaching and learning during this session?

Everything is related: 1) molecular/biochem concepts need a background in physics/chemistry, etc., interdisciplinary is key
2) Motivation of students, extent of teacher's ability, family dynamics, demographics, politicians, deans of science are all involved in the education process and if reform is to fully happen, it needs to happen at each level at each level.

ASBMB
American Society for Biochemistry and Molecular Biology
One Additional Survey Question

What topics do you find particularly difficult to teach or for students to understand?

The big picture and how it's all related.
Assessment for Year 1 Regional Workshops:

Strengths: What were the strengths of this session?

Enjoyed the group activity - wish we had time to do the second round.

Improvements: How would this session be improved?

Too much material too little time

Insights: What insights did you have about teaching and learning during this session?

Helped me to think about how to reduce complex ideas down to most significant points.
One Additional Survey Question

What topics do you find particularly difficult to teach or for students to understand?
Assessment for Year 1 Regional Workshops:

Strengths: What were the strengths of this session?

The opportunity to discuss ideas & strategies about teaching with people who are teaching and who like to teach.

Improvements: How would this session be improved?

Set more time aside for discussing & interacting.

Insights: What insights did you have about teaching and learning during this session?

I have to think hard and be clear about the ideas in my head so that I can communicate the ideas to my colleagues & students better.
One Additional Survey Question

What topics do you find particularly difficult to teach or for students to understand?

3D (and 4D) representation of developing embryos
Assessment for Year 1 Regional Workshops:

Strengths: What were the strengths of this session?

very interactive, lots of interesting ideas

Improvements: How would this session be improved?

propose/critique alternate strategies for teaching, more outcomes from discussion

Insights: What insights did you have about teaching and learning during this session?

confirmed that teaching
One Additional Survey Question

What topics do you find particularly difficult to teach or for students to understand?
Assessment for Year 1 Regional Workshops:

Strengths: What were the strengths of this session?
- lots of good discussion and novel ideas
- all topics covered rather than focusing on a single idea
- gathered people of different experience levels with different backgrounds

Improvements: How would this session be improved?
- discussion should be focused on 1 topic to keep on schedule better

Insights: What insights did you have about teaching and learning during this session?
- learned about new tools, i.e., highlighter tape, surveying instruments
One Additional Survey Question

**What topics do you find particularly difficult to teach or for students to understand?**

- functional complementation
- mechanism of deconjugative activity
Assessment for Year 1 Regional Workshops:

Strengths: What were the strengths of this session?

Networking
Other viewpoints on education
Different pressures at different institution types
Views on how to work it

Improvements: How would this session be improved?

Difficult in the amount of time to work on all tasks.
Would it be possible to skype some of these projects before hand to allow more indepth Unpack concepts

Insights: What insights did you have about teaching and learning during this session?

Problems in assessment of learning
Incentives to teaching
What topics do you find particularly difficult to teach or for students to understand?

Genomic (students have a hard time looking at the ideas of 1000s of genes all at the same time).

Multi step questions - where students want more as a short answer. Organic Chem has similar problems e.g. synthesis problems, metabolism and carbon flow as networks.
Assessment for Year 1 Regional Workshops:

Strengths: What were the strengths of this session?

Terrific, passionate, energetic speakers.
Exercise in groups increased challenge of stating ASBMB concepts.

Improvements: How would this session be improved?

American sign language for conference builds.

Insights: What insights did you have about teaching and learning during this session?

I will look into web pages influenced by Mike, learning assessments by Rob.
I understand the (+) and (-) control.

In research-driven yep?
I will incorporate the point.
Questions illustrated by Mike.
(like why do cats and not mix?)

ASBMB
American Society for Biochemistry and Molecular Biology
One Additional Survey Question

What topics do you find particularly difficult to teach or for students to understand?

In each lecture or lab course, asking students to design an experiment to test a hypothesis or mechanism (even when multiple examples of experiments to test similar concepts or hypotheses have been presented) is problematic.

Thank you for your细心, thoughtful, collegial atmosphere.
Promoting Concept Teaching Strategies in BMB through Concept Assessments

Assessment for Year 1 Regional Workshops:

Strengths: What were the strengths of this session?

- There was an in-depth discussion of the topics.
- The dynamic of the session was fantastic.

Improvements: How would this session be improved?

- We didn't stick to the schedule but that may have been a strength.

Insights: What insights did you have about teaching and learning during this session?

- It is important to identify the fundamentals and make sure the student understands these fundamentals. Students should be able to synthesize new information if they understand these concepts.
One Additional Survey Question

*What topics do you find particularly difficult to teach or for students to understand?*

Students conceptually know that different cells need to express different genes. How does that occur?
Assessment for Year 1 Regional Workshops:

Strengths: What were the strengths of this session?
- always interesting to talk to colleagues at other institutions and hear what others are doing.
- good discussion of some of the challenges of changing how we teach.

Improvements: How would this session be improved?
- It would have been nice to take group feedback and revise sentences for Activity #1.
- It would have been really useful to try Activity #2, at least briefly.
- May be only 1 keynote speaker so there was more time for discussion (though both talks were really interesting).

Insights: What insights did you have about teaching and learning during this session?
One Additional Survey Question

What topics do you find particularly difficult to teach or for students to understand?
Assessment for Year 1 Regional Workshops:

Strengths: What were the strengths of this session?
Discovering improvements to approaching course design. Also, networking and knowing what others have done or are doing.

Improvements: How would this session be improved?
Spend a little more time on concept assessments so individuals can return and help reform their own departments based on their existing strengths.

Insights: What insights did you have about teaching and learning during this session?
* That reform will be an uphill fight but that there is support available.
One Additional Survey Question

**What topics do you find particularly difficult to teach or for students to understand?**
Assessment for Year 1 Regional Workshops:

Strengths: What were the strengths of this session?

It was extremely thought-provoking. Good intellectual atmosphere where ideas were critically evaluated and developed. The first keynote speaker was charismatic and inspirational, he delivered key points clearly. The second keynote speaker presented excellent blueprint for engaging students in research in challenging undergraduate curriculum.

Improvements: How would this session be improved?

The copy of slides for the first keynote talk had poor resolution...this should have been caught before printing & copying the booklet.

Insights: What insights did you have about teaching and learning during this session?

The organizer outlined several important resources that will help me in shaping my teaching strategies.
One Additional Survey Question

What topics do you find particularly difficult to teach or for students to understand?

Quantitative analysis in biochemistry:
- how to apply mathematics to building mathematical models (enzyme kinetics, coupled equilibrium)
- and to analyze data using statistical methods.
Assessment for Year 1 Regional Workshops:

Strengths: What were the strengths of this session?

- Heavy a variety of opinions from people with different perspectives.

Improvements: How would this session be improved?

- I thought we could get more concrete ideas of assessment strategies we could apply in our own teaching.

Insights: What insights did you have about teaching and learning during this session?

- Instructor goals + student goals don’t necessarily agree - instructor’s want the students to learn, while students want to do what is required to get a grade / pass the course. Maybe instructors should focus more on encouraging students to engage + learn on their own + provide resources to help them when they get stuck. Students need to be responsible for their own learning.
One Additional Survey Question

What topics do you find particularly difficult to teach or for students to understand?
Assessment for Year 1 Regional Workshops:

Strengths: What were the strengths of this session?

It was very helpful to have the opportunity to re-imagine/re-vision curriculum design. It was also stimulating to engage these issues with colleagues with different perspectives.

Improvements: How would this session be improved?

Great goals, but a little too ambitious. It would have been great to be able to go back and edit our work after the group discussion, perhaps working with the other group that had our concept area.

Insights: What insights did you have about teaching and learning during this session?

I think I see a way to balance lecture and active learning approaches.
One Additional Survey Question

What topics do you find particularly difficult to teach or for students to understand?

This is really generic, but I think getting students to conceive of life processes being molecular in a deep way is pretty challenging, it isn't intuitive for them.