7.02/10.702 SciComm Meeting 4: Results

SciComm Agenda--Meeting 4

1. Oral presentations on Arbuckle et al. Lupus article
2. SciComm feedback
3. Results section tips and guidelines
4. Results section group exercise
5. Peer feedback on LTP Illustrations
   - Respond to the person who posted his/her LTP Illustrations BEFORE yours.
   - Response should be as an attached file.

Oral Presentation Peer Feedback

Send a brief email to your assigned peers.

describing:
– Strengths of the presentation
– Presentation elements that could be made even stronger.

7.02/10.702 SciComm Mid-Term Feedback

On index cards, please respond anonymously to the following questions:

– What has worked best in this class so far and why?

– What has not worked well in this class and why?

– What single change can you suggest?

What is the Purpose of the Results Section?

- **Objectivity**: Make the data, just the data, easy to find.
  - *Some readers want to interpret your data themselves rather than accepting the interpretation presented in the discussion.*
- **Description**: Describe the data presented in figures and tables.

What Differentiates Results from the Methods?

Methods = *How* the data were accumulated.

Results = *What* data were accumulated.

Readers expect to find the "answers" to your research questions in your Results section.

What Differentiates Results from Discussion?

Results = *Data Presentation*

("Experiments showed that . . . .")

Discussion = *Data Interpretation*

("Experiments suggest that . . . .")

However, you still need to choose which data to present in your Results Section (an act of interpretation!).

What are the Contents of a Results Section?

- A brief description of the experiment or rationale at the beginning of each subsection ("In order to . . . . As a result, we found that . . . .).
- The data (in past tense).
- Descriptive text for FEW determinations.
- Tables or graphs for REPETITIVE determinations.
- The data that your methods indicated you would produce (and answering the questions you established in your introduction).

What are some qualities of a well-written Results section?

- Methods and Results **Correspond**.
  - *i.e., no experimental results for which there are no methods, and vice versa.*
- Results are presented in a **logical order**.
  - *e.g., most important first, most fundamental first, etc.*
- Results **focus on the question(s) or hypothesis** introduced earlier in the paper.

What are some pitfalls of a Results section?

- **Overstating** the results
  - (e.g., "Figure 1 clearly shows…")
- Reporting **irrelevant** results
  - Although it is sometimes useful to report experiments that didn't work.
- **Omitting** visual organizers
  - Such as subheads.
- Including **inappropriate** illustrations.
  - As we discussed last meeting.
- Including methods and/or discussion.
  - Overlap is acceptable in some circumstances.

Results Example 1: Creating a context for the results

Results

I hypothesize that CG7593 acetylates certain lysine residues of the histone protein, therefore neutralizing them, disrupting histone-DNA interaction, and allowing HeT-A to bind to telomeric DNA. CG7593 may or may not be involved in directing HeT-A to the telomeres. According to the hypothesis, I expect that CG7593 localizes in the nucleus and that in its absence, the entry of HeT-A into the nucleus would not be affected. The first steps in performing the experiments to test the hypothesis were verifications of HeT-A-GFP construct to be transfected into Schneider 2 cells, SD10812 EST from which *CG7593* was amplified, and the created *CG7593* dsRNA.

> **HeT-A-GFP construct verification SD10812 EST verification**
>
> ***CG7593* dsRNA verification**
>
> **HeT-A protein localization in *CG7593* knock down Schneider 2 cell cultures**
>
> **Viability Analysis**

Results Example 2

RESULTS

Pendulin and HeT-A were previously shown to interact in a yeast 2-hybrid screen. Pendulin encodes importin-_, which is involved in the translocation of proteins through the nuclear pore (Quimby and Corbett, 2001). The possible role of pendulin in the localization of HeT-A to the nucleus was studied via visualization of HeT-A with fluorescence microscopy and RNAi inhibition of pendulin translation in S2 cells.

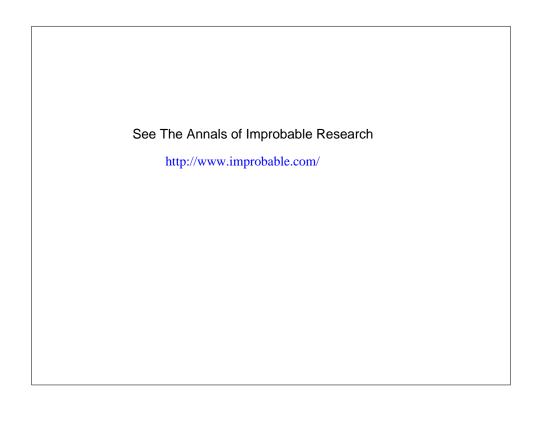> **HeT-A Verification**
>
> **HeT-A Expression in S2 cells**
>
> **EST Verification**
>
> **Effect of RNAi on HeT-A expression in S2 cells**
>
> **Production and Transfection of GFP:Pendulin Construct**
>
> **Production and Transfection of Truncated GFP:Pendulin Deletion Derivatives**
>
> **Estimation of Cell Viability**
>
> **RT-PCR**

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http://www.improbable.com/

Results Section Exercise

From the data table of education enrollments, construct a paragraph for a Results section:

- Consider the larger question to be a discussion of enrollment trends.
- Focus on particular segments of schooling (e.g., higher education) or the system as a whole.
- Feel free to make a new illustration from these data.

Today's Out-of-Class Exercises

Due on the off week (April 7):

- Write a brief critique (2-3 pp.) of Arbuckle et al. "Lupus" article, focusing on the illustrations.

Due next meeting (April 14):

- Write a Results section for your long-term project.
- Read the Lapostolle et al. "Pulmonary Embolism" article (and the accompanying Editor's Perspective); students responsible for presenting will be contacted with specific roles.
- Revise your LTP Methods.
- Revise your Druker et al. CML intro paraphrase.