

Chemical Engineering 475

Unit Operations Lab I

Lecture 9 Critiquing



Spiritual Thought

3 Nephi 11:2

And they were also conversing about this Jesus Christ, of whom the sign had been given concerning his death.



Critiquing

- Optimize communication
 - Improve writing quality
 - Clarify confusing sections
 - Streamline “story” of paper
- Prevent mistakes and errors
 - Double-check numbers
 - Validate references
 - Grammar and syntax



Grammatical

- Topic sentence check
- Paragraph flow
- Spelling and grammar
- Tables and charts
- Formatting
- Numbers/Tables
- Etc.



Content (I)

- Introduction:
 - Why is the work important?
 - Objectives of research? Is this interesting?
 - Transition to experimental/methods section?



Content (II)

- **Methods/Experiments**
 - Is the content focused on the methods and experiments?
 - Are the figures detailed enough? Was the description detailed enough?
 - How well are the runs/models described?
 - Are the measured/calculated variables clear?
 - Are there gaps in the description that make it hard to understand?



Content (III)

- Theory/Analytical
 - Are the assumptions (implied/stated) valid?
 - Could the equations/solutions be more clear?
 - Are the nomenclature/variables defined?
 - Is the sequence of equations logical and connected?
 - Are the methods consistent with previous knowledge/experiments? If not is the discrepancy explained?



Content (IV)

- Results
 - Are the tables/plots/numbers clear?
 - Are they presented in the most effective format?
 - Is there sufficient discussion regarding the results?
 - Are the tables and results related to the experimental methods?
 - Do the figures/tables add to the results?
 - Is there missing results or information?



Content (V)

- **Conclusions:**
 - Is the recommendation clear?
 - Do the conclusions make physical sense? If not, is this explained suitably and clearly?
 - Does the conclusion take into account any obvious externalities or discrepancies from the methods/experiments/results sections?
 - Are the conclusions based upon sound statistical principles?

