New York City College of Technology

Writing Across the Curriculum

November 19, 2015

Effective Grading and Minimal Marking Faculty Workshop

Activity

Read the text below and mark it as you would your own students' work.

What if we couldn't be confident about our confidence intervals?

Any discussion of point estimates in statistics texts reminds of that statistics isn't a field of exactness; we are introduced to confidence intervals. These upper and lower bounds on the estimated value of a parameter estimate (say the true proportions of the failure rate of air bags), provide Statisticians a way to capture the imprecision of their estimates inside a range, so the is risk implied by making decisions governed by these estimate are manageable. With a 95% confidence interval, a statistician can say the true value of the parameter she is interested in estimating will turn up inside 95% of the random intervals she builds around the parameter estimates for the various samples she takes.

But what if she was wrong? Suppose, as a quality insurance statistician for some air bag manufacturer she tells her boss that she is confident that true proportions of failures to non-failures of airbags will be bounded by the some random intervals 95% of time in the long run (as the number of samples n go to the limit). But it happens that the true 'coverage' of the confidence interval turned out to be upper bounded by some frequency much lower that than 95%, what then? Well, our hypothetical company has problems, the least of which is the issuance of recalls because the number of failing airbags were underestimated and are now failing in vehicles on the road.

Confidence intervals are intended as assertions about the bounds of a parameter estimate. The coverage probabilities of these confidence intervals are the 'long run' probabilities that the confidence interval contains the true parameter of the underlying distribution being considered. Hence, when a Statistician speaks of a 95% confidence interval she means the nominal or 'expected' coverage of the confidence intervals in the limit (given that her assumptions about the true value of the parameter holds). However, what she faces is the chance that the actual coverage of the intervals turn out to be far less than the nominal or expected coverage.

Based on the results of Agresti, Coul[Ll] and Cai et al[2] we will consider the coverage probabilities of confidence intervals, placing our attention on the estimates of the binomial parameter. It will be shown that the standard elementary textbook bounds (referred to as the Wald confidence interval or the standard interval) behave extremely erratically at or near the endpoints of the proportions (near 0 or l) even for larger number of samples n. Simulations will be built using the SAS University edition software that demonstrates this behavior clearly. Further and most pleasingly we will implement a simple approximation of the Agresti - Coull score confidence interval namely the "Add two successes and 4 trials" method, Using this new confidence interval we build simulations that show the robustness this improvement over the Wald confidence interval for small number of and for values near the endpoints of the success parameter. These results will hopefully put of worried quality insurance statistician at ease.

Higher and Lower-Order Concerns

Higher-order concerns

- Thesis statement
- Quality of argument/ideas
- Evidence used correctly
- Logic of conclusions
- Use of topic sentences
- Organization of paper
- Follows assignment
- Demonstrates understanding of course material

Lower-order concerns

- Spelling
- Grammar (agreement)
- Formatting (font, spacing)
- Citation
- Punctuation
- Sentence structure
- Vocabulary/word choice
- Style

Resources for better student outcomes at City Tech

Atrium Learning Center: http://www.citytech.cuny.edu/students/learningcenter/

Helpful links for ESL/ELL students: http://websupport2.citytech.cuny.edu/learningcenters/esl.htm

Online library tutorials for students: https://library.citytech.cuny.edu/help/tutorials/index.php

Eight Great Strategies for Effective Peer Review

#1 Focus on improving only one aspect of the draft

#2 Give students a worksheet

#3 Use peer review throughout the writing process

#4 Decide on location of peer review

#5 Determine group size and make-up in advance

#6 Think through logistics of exchanging drafts and responses

#7 Take steps in advance to ensure students come prepared

#8 Think ahead about your role during peer review

Strategies for Minimal Marking

Low Stakes Assignments

- No marking
- Have a conversation
- Ask questions

High Stakes Assignments

- Put the pen down!
- Selective Line Edits
- End Comments
- Develop a Key

Example: Over marking

Every year [on one Sunday in the middle of January] tens of millions of
wordy - be precise *which Sunday?* ↓ *comma needed*

word choice
people cancel all events, plans or work to watch the Super Bowl. This

wordy
audience includes [little boys and girls, old people, and housewives and

Be specific - what reasons?
men.] Many reasons have been given to explain why the Super Bowl has

and why — *what spots?)*
become so popular that commercial (spots cost up to $100,000.00.

awkward
One explanation is that people like to take sides and root for a team.

another what? ↓ *spelling*
Another is that some people like the pageantry and excitement of the

too colloquial
event. These reasons alone, however, do not explain a happening as big as

the Super Bowl.

you need to do more research

This paragraph needs to be expanded in order to be more interesting to a reader.

In this example, the instructor has included so much detailed commentary that it is difficult for the student to identify major problems and patterns of error. In addition, the marginal comments suggest cutting this paragraph. If the student takes this advice, the time the instructor spent line editing will have been wasted.

Supportive Responding

- Ask questions
- Use any color ink or pencil…except red
- Write in legible and complete sentences
- Vary and prioritize feedback

Example: Supporting Responding

Associations unite peopole of similar
What happens to self-interested citizens in this scheme?

interests, and are therefore an important

component in a participatory government.

Attribute quotations more clearly, like this
in Tocqueville's view
Assocciations function/to teach citizens

"the habits of acting together in the

affairs of daily life" (514). In this

way, citizens not only enjoy the benefits

of sharing the common bond of living in a

community, but they also prepare themselves

through the experience for self-government.

This is an excellent point. Here (as elsewhere) you could strengthen your argument by adding an example. Maybe the NAACP?

In this example the instructor is using questions, modeling good citation, and providing suggestions for further development of the paper. These can be used singly or together as part of a supportive marking strategy.

Types of Feedback

Supportive Feedback

"You've done a great job at finding facts and quotes to support your argument"

"You have included facts that support your argument"

Revision-Oriented Feedback

"Your supporting arguments need some development, but your thesis statement is clear and strong."

Informational Feedback

"Most states do allow a waiting period before an adoption is final—Do you feel that all such laws are wrong?"

Editorial Feedback

"Your use of verb tenses is often confused. Please review paragraphs 1 and 2 on page 4 where those errors were corrected for you."

Group Grading Exercise

Protocol: With your pens down, silently read the paper without making any marks or comments. Once completed work with your group to:

1. Read the piece out loud (one paragraph per person, for example).

2. Description of text: Make one non-judgmental, descriptive observation. It should be something we would all agree on (e.g., "the writer uses a quote"; "there are five paragraphs," etc.)

3. Note one thing the writer does well.

4. Identify an idea you found provocative or interesting that you would like the writer to think about further.

5. Identify one or two patterns of error.

6. Drawing on previous observations, compose a comment for the student that will promote revision and move the paper forward.

What if we couldn't be confident about our confidence intervals?

Any discussion of point estimates in statistics texts reminds of that statistics isn't a field of exactness; we are introduced to confidence intervals. These upper and lower bounds on the estimated value of a parameter estimate (say the true proportions of the failure rate of air bags), provide Statisticians a way to capture the imprecision of their estimates inside a range, so the is risk implied by making decisions governed by these estimate are manageable. With a 95% confidence interval, a statistician can say the true value of the parameter she is interested in estimating will turn up inside 95% of the random intervals she builds around the parameter estimates for the various samples she takes.

But what if she was wrong? Suppose, as a quality insurance statistician for some air bag manufacturer she tells her boss that she is confident that true proportions of failures to non-failures of airbags will be bounded by the some random intervals 95% of time in the long run (as the number of samples n go to the limit). But it happens that the true 'coverage' of the confidence interval turned out to be upper bounded by some frequency much lower that than 95%, what then? Well, our hypothetical company has problems, the least of which is the issuance of recalls because the number of failing airbags were underestimated and are now failing in vehicles on the road.

Confidence intervals are intended as assertions about the bounds of a parameter estimate. The coverage probabilities of these confidence intervals are the 'long run' probabilities that the confidence interval contains the true parameter of the underlying distribution being considered. Hence, when a Statistician speaks of a 95% confidence interval she means the nominal or 'expected' coverage of the confidence intervals in the limit (given that her assumptions about the true value of the parameter holds). However, what she faces is the chance that the actual coverage of the intervals turn out to be far less than the nominal or expected coverage.

Based on the results of Agresti, Coul[Ll] and Cai et al[2] we will consider the coverage probabilities of confidence intervals, placing our attention on the estimates of the binomial parameter. It will be shown that the standard elementary textbook bounds (referred to as the Wald confidence interval or the standard interval) behave extremely erratically at or near the endpoints of the proportions (near 0 or l) even for larger number of samples n. Simulations will be built using the SAS University edition software that demonstrates this behavior clearly. Further and most pleasingly we will implement a simple approximation of the Agresti - Coull score confidence interval namely the "Add two successes and 4 trials" method, Using this new confidence interval we build simulations that show the robustness this improvement over the Wald confidence interval for small number of and for values near the endpoints of the success parameter. These results will hopefully put of worried quality insurance statistician at ease.

Further Resources

Sample End Comments

Insert Contact Information Here:

Comments on Draft

Date:

Dear: _____

Nice job on getting a draft done! Your next steps are to revise your paper—take another look at it and don't forget to use the original paper guidelines to make sure your revised paper meets the requirements of the assignment.

Here are some specific thoughts/ideas/suggestions to help you revise this draft.

1.

2.

3.

Also:

___There was a higher than average number of grammar/technical errors. Please do your best to proofread your paper to work on these after you've revised your paper for content and ideas.

___Please see the "Writing Resources" in our class Blackboard for additional tips/assistance/help with structure/writing conventions/formatting/citations, etc.

___Please make an appointment at the Writing Center for additional help—and bring your original assignment and these comments so they can give you better feedback.

As always, please see me during office hours or make an appointment if you need more detailed help with drafts.

Sincerely, Prof. ---

Sample Draft Comments

Date:

To: Student X From: Prof. ---

Re: Draft of Cross-Cultural Interview Paper
_____

This is a really great draft. You have a lot of rich details from your interviews and a lot to analyze. Here are some specific thoughts and suggestions for revising your paper:

• As you review and revise your paper, look at the themes that emerged especially as you compared and contrasted your two interviewees. These themes could be incorporated into your introduction and become part of the thesis or guiding statement which tells your reader what is to come.

• I like the details you give about your two interviewees and now you need to further develop the compare/contrast between the two respondents. What do they have in common/what do they not? Are there racial/ethnic backgrounds significant, etc.—what determines how their experiences turned out?

• Your paper still needs a "true" conclusion. A good strong conclusion does not give brand new information, but it doesn't just "wrap up." It should give the reader with a sense of a "takeaway." What was interesting? What did you learn from this process?   You can make connections to "real life" situations, etc.

• Your interviews sound really interesting and I think you could expand and include more information from your discussions. Go back to your interview notes to fill out some more detail.

• I did notice a lot of little errors in spelling and grammar and pointed them in out in a sample paragraph on page 2. Please try to make a note of the errors and work on them when you are proofreading. You can find strategies for grammar issues on Blackboard in the "Writing Resources" section.

You may want to go to the Writing Center for additional feedback (don't forget to bring your paper guidelines and these comments along with your draft) and of course, you can always see more for more feedback.

As you refine and revise, don't forget to go back to the original assignment to make sure your paper meets the goals and requirements of the assignment. Check out the Blackboard folder "Writing Resources" for helpful tips for the revision process in general. Good luck with the revisions!

Sample Peer Review Questions – Introductory Paragraphs

Name of writer:

Name of reviewer:

Instructions: At home, spend an hour responding to the following questions for each peer draft you received.

1. Write one sentences that could be added to the introduction that would convince a reader that the topic is worth reading about.

2. Is there a research question? If so, draw stars (*) around the research question on your hard copy.

3. Is there a thesis? If so, underline the thesis on your hard copy.

4. List below the concepts used in the thesis and indicate whether the author defined each one.

5. How does the author plan to address the research question? Explain in your own words.

Sample Peer Review Questions – Supporting Evidence

Name of writer:

Name of reviewer:

In groups of 4-5, all read the draft silently. Then, as a group, discuss the answers to the following questions together (20min). Then, as a group write down the responses you can all agree on, and return the drafts and worksheet to the original writer.

1. Underline the sentences on the draft that you think use supporting evidence.

2. List below the pieces of evidence the author uses to support her/his argument and label each by type (e.g. data, secondary source, logic, anecdote, etc.).

3. Which piece of evidence is the strongest? Why?

4. Which piece of evidence is the weakest? Why?

Sample Peer Review Assignment – Organization

Name of author:

Name of reviewer:

Instructions: Read the paper silently. Then, spend 15 minutes outlining the author's arguments below, using the format we discussed in class. (Reminder: your outline should list the thesis, each supporting argument and the evidence used to prove each supporting argument.)

References

Bean, J.C. (2011). *Engaging ideas: The professor's guide to integrating writing, critical thinking, and active learning in the classroom.* San Francisco: Jossey-Bass, 2011.

Elbow, P. (1997). *High Stakes and Low Stakes in Assigning and Responding to Writing.* In Writing to Learn: Strategies for Assigning and Responding to Writing in the Disciplines, ed. Sorcinelli, M.D. and Elbow, p. 5-14. San Francisco: Jossey-Bass.

Ferris, D. (2006). *Preparing Teachers to Respond to Student Writing.* Journal of Second Language Writing. p. 165-193.

Harris, M. (1979). *The Overgraded Paper: Another Case of More is Less.* In How to Handle the Paper Load, ed. Stanford, G. p. 91-94. Urbana, IL: National Council of Teachers of English.

Sommers, N. (1982). *Responding to Student Writing. College.* Composition and Communication, (33)(2), p.148-156.

Walk, K. (2007). *Teaching with Writing: A Guide for Faculty and Graduate Students.* Princeton Writing Program, p. 30-40.

CONTACT INFORMATION
Emily Crandall
ecrandall@citytech.cuny.edu

Drew Fleming
jfleming@gradcenter.cuny.edu

Pamela Thielman
pthielman@citytech.cuny.edu