S16-36-764: Discussion: How would you teach writing in Statistics?

What worked well in this class? what didn't?

What are some things you were surprised to learn or get better at in this class? What are some things you wanted to learn but didn't?

Any other comments about either the class, or about communicating in statistics?

best, & thanks,

-BJ

Student #1

What worked well in this class?

I really liked the resources you gave us to read. I think I will keep these so I can pull them up as I need them throughout my career. If I become a professor it might be useful to share these with my students. I also liked the discussions on the website.

What didn't?

I thought the class times were too long. It would have been better to meet maybe once a week and for one hour, instead of an hour and a half. It seems that most of the learning happens during the reading and writing assignments, so sometimes the class time feels a little long.

What are some things you were surprised to learn or get better at in this class?

I think the most useful part of the class was the part about sentence and paragraph structures with topic and stress positions. I am already using this in my writing. I liked reading other people's work, although sometimes I thought it was difficult to give many comments. I think this will be useful when doing peer review in the future.

Additional comments

Maybe this is an unrealistic dream, but I would have liked to produce a short paper out of this class. It would have been great if before going into the class we had some materials, and then during the class we had to write the introduction as an assignment, then the methods, then the results, etc. That way one would end up with a first draft of a paper.

Student #2

The most valuable part of the class was what I'd characterize as "peeking at the man behind the curtain". The whole paper/journal/grant process is very opaque and intimidating to outsiders, and some of the most value I got from the class were the actual examples as well as discussions about the process. It's nice to do this in a class because it doesn't naturally come up as explicitly in the course of normal work.

It would have been nice to have more practice writing new material rather than editing old stuff. Contra Student #1, I'm not sure that I want a paper out of the class (short argument: if I had material for a paper I would be writing it up already). Instead, writing a couple short paragraphs on topics of our choice might have worked better. For instance, I probably would have gotten more value out of sprucing up some notes on the stuff on which I'm currently working rather than rehashing the ADA report. The focus should be on new material rather than old material.

Student #1

I agree with Student #2.

Student #3

I thought this class did a really good job covering the revision process. I now feel a lot better about taking a draft and systematically finding ways to make it clearer and easier to read. I also think I've improved at putting myself in the reader's place while writing. I would also echo what Student #2 said about "peeking behind the curtain". I liked that this class gave a chance to learn about various parts of the research process that are often taught, at best, implicitly.

On the other hand, I think my biggest writing weakness going into this class was difficulty with writing an initial draft. I find it tough to just get things on the page before worrying about a polished product. I didn't feel like this class covered that.

I think the class would've generally gone smoother if everyone had been in the same stage of the research/writing process.

One idea I had was to design this class for first year students in their second semester. That would be helpful at the start of ADA, both for learning more explicitly about the research process and for learning about how to incorporate writing throughout the research process. It would also be nice to move the first year Data Analysis Exam to the fall (there are additional reasons for this...) and that would give everyone a draft to work on revising and polishing, even if it's a somewhat artificial task.

Student #4

I agree a lot with Student #1 and Student #2's comments, as I thought the two most helpful lectures were:

1. Going over the Gopen article paragraph/sentence structure. Just recognizing some high level concepts behind clear writing and practicing recognizing them was incredibly helpful.

2. Peaking behind the curtain of the academic world to understand what's going on. For instance, everyone I talked to agreed that the lecture where we could ask questions about the thesis proposal was incredibly helpful. This helps because this is something we all have to do, and now we have clearer guidelines of what's expected, the range of topics, etc... Similar statement for the review process.

More generally, it would be interesting to here: What is the an academic community? How does statistics compare to others? How does statistics fit into the broader scientific landscape?What does the statistics community (currently) value? Is this changing over time/how? What is the deal with Machine Learning from an academic statistics perspective? Where do PhD students fit in? What are some strategies for staying on top of the literature, etc... (Note that these ideas contradict with what I say below.

I would also say that Brian was an ideal lecturer for the course. I felt very comfortable asking questions in this course, and this kind of atmosphere created was very helpful.

Suggestions:

There were a few lectures I think we could cut, which would be expected from offering this class for a first time. For example, visualization is perhaps too big of a topic to do justice with one lecture. Part of me thinks that if we just read the Gopen + Swan article (and others closely related) for every lecture, I would have built more writing skills than trying to cover a wide array of topics. This gets into a breadth vs. depth discussion. For example, would we be better off taking STAT 705 two times in a row (depth), or is it better to take many courses (breadth) to be exposed to a variety of topics. I would side with the depth camp here, but I'm open to the debate.

Student #5

----- What worked well in this class?

--Peer review:

I appreciated the opportunity to have my draft reviewed as I worked on it. Also, I found that reviewing the work of others allowed me to improve my own writing. The feedback I gave made me think about my own draft, and whether I could improve on similar aspects.

--Readings about writing style:

Goss referred to style as a language that needs to be learned (hints of mathematical style). Learning a language as adults is more efficient when we can learn the grammatical structure. The readings that you provided us in class are a great resource to learn good principles about scientific writing style. The peer reviews also helped to reinforced these principles.

--In class discussion:

The discussion that I found most helpful were:

1- Structure of writing (Gopen-Swan)

2- The paragraphs we edited together and later discussed

3- Formal peer review process and dealing with reviewers comments.

I also appreciated the discussions on math and figures.

--Addressing the reviewer:

Making a separate documents to answer the reviewer was helpful to me (Feb26). It organized my thoughts on the feedback I received, and also enhanced communication with the reviewer.

-----What didn't?

--Live review of documents in class:

It worked, but I think it would have been more effective if I had first done it on my own beforehand and then looked at it during class.

-----What are some things you were surprised to learn or get better at in this class? What are some things you wanted to learn but didn't?

--What I got better at:

The objective of using writing to communicate scientific ideas and making the writing itself "invisible". Now I definitely think more about reader expectations, structure, and consistency.

--What are some things you wanted to learn but didn't?

Somehow, I expected to have more specific discussions on writing about statistical methods. How do I better describe what I did with the data?

-----Any other comments about either the class, or about communicating in statistics?

I appreciated this class and will be using what I learned as I write more papers.

Student #6

I do notice a change in my writing process since I have taken this class. I try to shorten sentences and be as clear as possible in defining terms.

I liked that we took our actual papers for peer reviews and revision. I do wish we had more time in between reviews. In addition, I'm glad we covered topics like reviewing papers and the thesis proposal. Those were very helpful. It is nice to lay out the expectations for such topics.

I do wish we spent more time doing new writing in this class. Perhaps we could have summarized a paper or the talks that we went to.

I think this class is a great idea, and I hope it is offered in the future.

Student #7

What worked well in this class?

The first part of the class, when we discussed ideas related to structures, logical gaps and reader's expectations, stuck with me almost like a formula throughout the class. The rules were straightforward and I could see them working when used 'correctly'. This was the guideline I mostly followed when doing peer reviews for the class.

That being said, peer review was another good aspect of this class. Revising other people's work made me more aware of my own shortcomings as a technical writer. I could think in terms of what worked, what did not and what I could improve on to meet my reader's expectations.

I think, it also helped that most of us were already working on a paper of some form and that greatly facilitated peer review. However, echoing other views in the discussion, I do think it would have been a good exercise if we focused on same section (parts) for all the reviews. That way progress would have been more visible, perhaps?

I also liked the lecture on journal submission and review process. Until you submit your own work, no one really tells you how cumbersome it can be and what you should be expecting. So this was a good realistic preview.

The class certainly made me more aware of my technical writing skills and I be will using the guidelines on structures a lot when writing my thesis.

Suggestion!

Personally, I would have liked it if we had spent a lot more time to expand on the ideas explored in the beginning of the class and to get into the depth on technical aspects of good writing. I would be okay, not covering materials on presentations and visualizations, though both being equally important in an academic career.

Finally, this class might need a bit adjustment depending on the level of research experience of the students taking it. For example, if teaching first years who are just starting their ADA and with little or no research experience, they might need a buffer time to prepare their goals for the class. Whereas for most of the people who took the class now, we already had that set.

I highly recommend teaching this class again. PhD students can learn a lot of things about writing and publishing that most researchers usually learn by trial and error over a longer period.

Student #8

I found this class very useful. I'm usually very intimidated when giving suggestions to people with way more experience than me in English. I think that learning some principles behind writing makes me feel now a little more courageous. I think this can apply to many international students, less confident with English.

What worked well?

1. Gopen and Swan - The structure of writing

I found a very good idea start with Gopen and Swan and the structure of writing. These are principles that some of us already apply but I'm sure that many people do not realize that. Like I said to Brian, I feel that knowing those principles gives me a better idea on whether the author was unclear or it was me not able to get his/her point and it helps my next move: read again, paying more attention, or find other sources where the same concept is better explained.

2. Paragraph review (from a past proposal draft)

It's great to apply what we learn, but I would keep a single paragraph review assignment and then move to the peer reviews.

3. Lebrun discussion

Again, like in Gopen and Swan there are very nice principles and it was nice to discuss these together and read other people opinion on the discussion board. I loved the examples.

4. Peer review

Reviewing other classmates paper was very interesting. There is an issue with the fact that the stage of our work is very different. I was on a first draft of my proposal, other people were submitting a paper after one year of work on it and the difference is pretty evident when reviewing one or the other. Although, I understand that whoever reviewed my sections found it very hard and confusing, I honestly don't see a good strategy to fix this in the future. I was thinking to some options, but I wouldn't be more strict. Random rotation is probably the best option to make things even.

5. Visualization and how to write mathematical proofs

I think for visualization is good to have a discussion and probably couple of classes. After reading some of the strategies, it could be nice if each student brings couple of plots that worked/not worked in a presentation that they have seen and in a paper that they have read at some point. Probably for the presentation is not easy to get the material, so it might be one of their slide that was cut for the final presentation. Also something they found on the newspaper, web, like Brian did.

For the mathematical proof I think read couple of papers is enough. Many of us deal with that only a few times.

6. Proposal discussion

I'm very biased here, but writing couple of sections of my proposal and understand what professors expect to see was my main goal in this class, so, yes, this was very very useful. Trying to be more objective, I think it remains one of the best classes. The 80% of the class is close to write a proposal, and the 20% left just did it, so it's a interesting discussion and everyone can take something from this class.

What I would change

1. I would plan 1 hour class. After 4pm people were loosing focus.

2. I would not do the review of each of us in class. Like I said to Brian, I've noticed that my focus was considerably different when discussing my paper, compared to discuss someone else's paper.

3. I would keep the last round of review based on give comments on a section and probably have a rule of not more than 2 submissions for the same section. This because it would incentive who's writing by scratch to write more.

An additional note for a couple of other things that I found that worked great in this class

1. going behind the scene of proposal/peer review.

I think all of us felt very free to ask any type of question in class or in the discussion board. There was a great interaction between the class and the instructor and this made many topics even more interesting.

2. The material was very good.

The material that Brian provided is great to save on our desktop and read once in a while to refresh our memory.

I hope this class will be offered again in the future, and I would explicitly ask Brian to teach it.

Student #9

The beginning of the class was extremely useful. Discussions about sentence structure, paragraph structure, subject-verb separation, topic position, stress position, etc. were really useful. Before this course, I never thought about sentence structure while writing a report. I have noticed that my writing has improved significantly after the first few weeks of class. The small discussion about data visualization also helped significantly.

Later in the class, I felt the class lost a little momentum. The peer reviews were very useful and reading about the whole peer review process helped a lot. We also got to take a peek at the whole submission procedure. That was wonderful. But the class hours were too long and as mentioned by Student #8, I think reviewing other's papers in class made us lose concentration a little. May be having a 40 minute class would have been more useful.

I think the individual meetings with every student is going to be very useful. I also feel that after the initial phase of peer reviewing started and once we were done discussing writing structure, we lacked things to talk about in class. Instead it may be useful to have some more weeks for the individual meetings.

Lastly, the materials provided for the class were excellent. I will probably use them very frequently in the future. Thanks Brian.

Student #10

I think the class worked well in several aspects.

The peer review and revision process is very helpful for improving my writing, especially in the sense the new readers are not so familiar with the content of the article and won't overlook gaps in logic. The 'insider information' about academic publication process is also very helpful. I think what would help the most is the mindset 'it's good news as long as the response isn't goodbye and don't come back again'. Most of the reading materials are very helpful and helped raise my awareness of relieving readers' mental burden.

What might be improved is the live reviewing sessions during lectures. It might help if we have access to the writing you're planning to go over beforehand. Another improvement I want is that the peer review could have more rounds. As someone else suggested, maybe we should do one lecture per week, but for the entire semester.

In brief, I think I benefited a lot from this course. This is definitely a very successful first trail. Thank Brian and all my classmates for your help during this mini. :)

Student #11

What worked well?

I think reading some papers, like the Gopen and Swan piece, that tried to breakdown how the positioning of ideas can affect the readers experience were really helpful. These papers helped me focus more on the reader's experience. I also think trying out editing examples in class was really helpful. Thinking about it myself and then talking about it with the group seemed the most helpful.

I also thought having us submit drafts and go through the review process helped me to both get more work done on my own assignments, and get a chance to see what changes someone might make from a more objective point of view. I think we only get to see finished pieces of work when we are reading papers for our own research, and seeing a bit of the process for many papers of moving from drafts to more focused papers was really useful.

What didn't work well?

Sometimes I would get a bit lost or unfocused when we covered sample revisions of papers we had not seen beforehand. I think having a chance to look at a sample beforehand and think about what I would change made it easier for me to engage and follow the changes being suggested.

Things I was surprised to learn:

The biggest thing I learned was to make sure that whatever I'm writing has a very specific purpose. Before I think I would start out with the goal to "explain something well". But this type of goal is too vague, and means different things in different scenarios. By focusing on laying out up front exactly what ideas I want the reader to remember after reading my paper, I can make it much more likely that they actually remember those ideas. Similarly, by targeting a specific audience initially, I don't have to constantly try to determine the level at which I need to present ideas.

Additional Comments:

I wish we had an assignment for revisions where we could have focused more on optimizing the structure of sentences. Frequently the length of the reviews made it hard to really focus on the sentences, and I ended up focusing more on the organization, and occasionally on breaking up sentences that had a few too many ideas. We talked a decent bit about how to create focused sentences, but we didn't really spend much time trying to fix sentences outside of class.

Student #12

What worked well / what didn't:

In general I thought the discussion based parts of the class both of the readings and of editing where helpful. I did feel that some of the discussions about revisions, particularly when critiquing student work in class went on longer than was useful.

The peer reviews were also helpful. There was a bit of an evolution in terms of how much feedback was asked for which I think could be streamlined if the class was taught again. Similarly, I thought getting

practice writing up and responding to reviews was helpful although focusing on smaller sections of writing might have been helpful. It takes a lot longer to write detailed reviews of / respond to all of the comments on a 10 page section than a 2 page section. For the purposes of honing these skills I think it would have been helpful to focus more effort on narrower sections.

Things I was surprised to learn or get better at in this class:

I was surprised by how much I learned about ordering sentences and structuring paragraphs. A lot of the material presented in call really drove home how different this can be in technical writing than in say an essay for an English class and it seems that this difference is much greater than I initially thought it would be.

Things I wanted to learn but didn't:

While we touched on this briefly I think it would have been helpful to go through more examples of tailoring pieces to different audiences. I feel like this was brought up in a general sense but it might have been helpful to practice this once or two. Maybe have an assignment where we are given a paragraph written for a statistical audience and we re-write it for a less statistical audience or vice versa? There are enough tradeoffs involved in this processes that discuss some examples in why we make specific ones would have been interesting.

Student #13

I really liked all the resources you provided. The article about structure of writing (Gopen & Swan) was very helpful. I haven't been really careful about how sentences are linked to each other, but now I am caring more about that. The style about mathematical writing was also surprising to me: some principles are that I haven't really care about, such as 'mathspeak should be readable'. The peer review was also very helpful to me. The reviewers gave me feedback about which part of my paper is not obscure, that I cannot find by myself.

There are some topics just popping up from my mind that could be covered in next semester class: (1) how to organize slides for presentation would be helpful, since all of us are suppose to give many presentations. (2) going over some structure of papers in statistics over different flavors(e.g. theoretical papers, methodology papers, or application papers) would be useful. It would be interesting to see how papers of different perspectives are differently organized. (3) how to write code. I think we are all writing codes for our research but how to write a good code is not really seriously considered.

Thanks everyone for this writing class! I learned a lot.

Student #14

What worked well in this class? what didn't?

I think the peer review assignments were really helpful. Reviewing someone else's paper with the topics from class in mind also helped me get in the right mindset for editing my own work. Reading other people's work is something we don't get to do very often in the graduate program, and I think it's really helpful. I do think it would've helped to have clear guidelines for reviews from the beginning to make

the process less lopsided (i.e. how many pages you should submit for review, how many comments to make, a specific format, etc.). I also think if we would've covered the journal review process a little earlier, and had to respond to the comments for each revision, the peer reviews could've been a little more productive.

I also thought the online discussions were surprisingly helpful. Reading other people's thoughts and being able to refer to them while reading different articles helped me remember the material better and get things out of it that I wouldn't have realized otherwise.

I agree with Student #1 that sometimes the class itself seemed a little long. Rather than only having class once a week, I would either have each of the class periods a little shorter, or do something more collaborative with part of each class period. Other people have mentioned that when doing an in-depth review of someone else's work it would've been helpful to be able to read that paper beforehand, and I agree.

What are some things you were surprised to learn or get better at in this class? What are some things you wanted to learn but didn't?

I was surprised at how in-depth we went with the sentence/paragraph structure at the beginning of the course. I wasn't expecting to talk about those topics, but they ended up being helpful when reviewing and revising.

One of the things I was hoping to learn was more specifics about how to submit to a journal. i.e. How do you take an ADA paper/thesis proposal and cut it down to something publishable? How do you pick a journal to submit to?

Any other comments about either the class, or about communicating in statistics?

One thing that I think would've been helpful is to make the class more workshop based. I would suggest to put us in groups of 5 ish at the beginning of the semester based on some criteria (subject matter, ADA vs proposal vs journal article, current state of `polished-ness' etc.) and then have the peer review process occur within each group. Then, we would more time to really dig into the papers we were reviewing to give feedback. There would also be more accountability in reviews, since the people you were reviewing would also be reviewing your paper. As I said previously, it would have been nice to have some collaborative portion of the lectures, and this could be a way to incorporate it. If we had ~30 minutes of in-class time a week to talk to the same group of people about our goals for the paper and what we wanted out of each review, we could hopefully make more progress.

I do think this was a really helpful class, especially taking it after doing the bulk of the ADA work. I think the fourth semester was an ideal time to take it, because most of us had a near-finished ADA draft that we could edit and work with, but there's still plenty of writing ahead of us that we'll be able to use the concepts in class for. I hope it continues to be offered. I'd like to take it again with other pieces of writing to get the peer-review feedback and editing experience.