Facilitating Critical Feedback on Capstone Papers Through Student Poster Sessions

Danny Damron, *Brigham Young University*

Students in capstone seminar courses in political science are often required to go through the same research and writing process that professional political scientists go through in producing publishable work. Students often approach this exercise as the crowning achievement of their undergraduate careers. However, both students and the professors who work with them face constraints that may compromise the quality of the final paper. For example, many students lack direction in the research and writing process and miss opportunities for periodic critical evaluation and feedback of their work at each stage of the writing process. In addition, although capstone classes are generally small (in my case between 18 and 20 students), professors have limited time in which to read and provide extensive comments on students' drafts. Because students are in the infancy of their socialization into political science, and because of time constraints on the part of the professor, students' efforts often result in papers that fall short of their professor's expectations. Generally, this is true not because students lack the commitment or desire to produce good work, but because they: (1) lack a framework that promotes substantive discussion of complex research questions in basic ways; (2) are unaware of feedback resources that political scientists tap into when preparing a transcript for publication; (3) are unaware of the benefits of approaching the project in cooperative fashion; (4) fail to generate deadlines not mandated by the professor and thus do most of their substantive thinking and writing only during that critical last week before the paper is due; and (5) are fearful (in some cases) of sharing their unfinished work with their professor and others. Likewise, the absence of periodic critical feedback is not the result of professor ambivalence, but rather the outcome of professors who must balance student demands with demands from other classes, with their own research and publishing objectives, and with other departmental responsibilities.

One way professors can help remedy those deficits and promote more detailed feedback is to require students to plan and participate in a mock professional conference poster session a few weeks before the final draft of the research paper is due. This activity is productive for the students in many ways. First, this exercise forces the students to condense their research paper down to essential arguments and support that can be conveyed in a few short minutes. Second, it ensures that the evidence and analysis presented clearly connect to those arguments. Third, it forces the students to take a critical look at their work to date and identify what issues they are still struggling with. Fourth, this activity functions as a catharsis—the research process is often a lonely process for students; this gives them a chance to discuss that process in a low-pressure situation. Fifth, it gives students a chance to see how far they have come and to receive encouragement from their peers and from the professor. Sixth, it provides students with added incentive to move closer to completion of the paper sooner than they normally would. And finally, it gives students a valuable piece of citizen education—the skill of making presentations can be transferred to both scholarly and non-scholarly settings after graduation. The outcome, in terms of the practicality of this exercise, is that students critically evaluate their peers' work and receive critical evaluation in return which can then be incorporated into the final draft of the paper.

In this paper I describe how I use a mock professional conference poster session to facilitate critical self-evaluation and to elicit critical peer feedback that can be used to improve student research papers. This process includes having students generate the criteria for effective posters, helping students identify specific components of their papers to include (and to exclude) in their posters, facilitating student planning of the logistical components of the poster session, conducting the poster session, facilitating critical and useful feedback, evaluating the posters, and integrating feedback into revised drafts of the research paper. I found that students who participated in the poster session made significant and substantive revisions to their paper drafts and that these changes dramatically improved their final papers. As a bonus, students also gained valuable experience in making presentations and in improving their presentation skills.

Generating the Criteria and Format of Effective Posters

During the third or fourth week of the semester, I introduce the mock conference poster session to the students. On learning about the poster requirement many students are initially turned off. Some worry that they will be graded on the basis of their ability to creatively use glue, scissors, crayons, glitter, and so on. I reassure them that the primary purposes of the poster session are to share their research with their peers (and thereby improve their presentation skills) and to gather critical feedback that they can use to improve their paper. At the same time, I stress that going through the process of presenting their work visually may also encourage them to look at their paper critically in ways they had not done so before. In fact, I have found that the effort students devote to presenting their material in effective ways on the poster often translates into more careful and critical discussions of that same information when presented in the research paper.

To get the students to identify the criteria of effective posters, I first assign the students to view a few web sites (list available from author upon request) that discuss poster presentations. In a follow-up class, we then brainstorm a list of specific qualities that make an effective poster. This list often includes components like appearance (readability, organization, and format) and content (research question and hypotheses, approach, methodology, discussion of results, conclusions, and limitations). Then, during a later class period, I

Danny Damron *is visiting professor in the department of political science at Brigham Young University. His teaching and research interests focus on comparative politics with a focus on the role of civil society in democratic transitions and democratic consolidation in East Asia. He can be reached at danny_damron@byu.edu.*

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bring several posters from the previous semester into the class. I hang these posters on the walls of the classroom, give students the grading criteria I use for their poster session, and ask them to evaluate the posters (table #1) (Although the criteria are my own, I point out how it reflects the components the students generated previously.) Once the students have each had a chance to evaluate two or three posters, I collect the posters, put them up in front of the class, and discuss a few of them. Using the evaluation criteria I passed out at the beginning of class, we evaluate each poster's effectiveness in format, presenting the research question, explaining and justifying methodology, explaining analysis, presenting findings, outlining conclusions, and discussing limitations. Following a discussion of the example posters, we develop a list of essential components and a diagram that outlines the format of an effective poster. I turn this list into a formal handout, which I distribute to the students in the following class.

What to Include (and Exclude)

One of the most difficult (and productive) components of the poster-preparation process is that of evaluating the usefulness and validity of each of the arguments included in the paper. Despite the difficulty of this exercise, it can be very productive in terms of boiling down an argument to its bare essentials. The students are able (with direction from me and from other students) to see whether the essential components of their paper (their argument, data, analysis, theoretical grounding, conclusions, limitations, implications, and so forth) all fit together and hold up.

Timeline

Week 3
Introduce poster session, assign web sites
Brainstorm effective poster session components
Logistical planning

Week 4
Hand out poster evaluation criteria
Evaluate former class' posters

Week 5
Discuss poster format
Hand out poster format form

Week 13
Poster Session

Frequently, students find that increased and substantive student-student and professor-student discussions highlight holes in their research, analysis, conclusions, etc. In some cases, there may not be time to fill in those deficits prior to the poster presentation; however, the discovery provides new direction or pinpoints key areas that the students can focus on improving in their research paper. Similar to outcomes of writing a literature review, this part of the process helps students see not only the research questions more clearly but also the places they need to go to get the needed information. In addition, engaging in this process earlier in the semester forces students to confront their research and deal with more of the problems inherent in unexamined research. It is important to note that I reassure the students that the discovery of problems—even if they cannot be fixed before the poster session—is a productive process. It helps them seek more specific feedback and suggestions when they present their poster.

Students take the framework that they have developed through both our in-class discussion and their investigation of poster presentation web sites and use it to identify content specific for each quadrant on their posters.

Planning the Logistical Components of the Poster Session

A few classes after introducing the poster session to the students, I solicit volunteers to plan each major element of the poster session. Because the goal is to give the students genuine experience in presenting at a professional poster session, we recreate as many aspects of a professional conference as possible. Although one might expect the students to approach this part of the project with some reservation, I have found that the planning stage generates excitement and commitment to the success of the poster session.

One group is assigned room scheduling. I emphasize that they need to schedule a room that is big enough to allow for attendees to move around the room and look at all of the displayed posters. This group also needs to schedule easels to be placed in the room so that the presenters can display their posters or have appropriate wall space where the posters can be tacked up.

Another group is assigned to contact publishers. I have a publishers' table so that both students and attendees can see exemplary research on the capstone topic. At the end of the conference, we usually raffle off the books at the publishers' table. In the past it has been somewhat difficult to get publishers to donate books. The alternative to approaching publishers is to solicit donations from department funds to purchase a few relevant books online (Amazon usually has used copies for a reasonable price). I usually purchase a few books myself and donate them to the table.

Another group is responsible for planning publicity. This includes developing, printing, and passing out flyers, as well as developing a program for the session. When approached, representatives from Pi Sigma Alpha willingly put their organizational support behind our class efforts. They help students in charge of publicity get the word out to other political science classes and to other professors in the department. In fact, it may be worthwhile to explore the possibility of having Pi Sigma Alpha and the political science department sponsor the session and make it a regular requirement of capstone courses.

Another group is responsible for making sure that the room is set up appropriately (ensuring that scheduled easels or other display methods are in place on time) and for cleaning up following the poster session.

Finally, a group is assigned to plan a refreshment table.

Preparing the Students to Give and Ask for Critical and Useful Feedback

I have found that without specific criteria to frame discussions of the posters—and more important, the substance of the papers—students often shy away from both giving and soliciting critical and useful feedback. To promote that goal, some training is necessary, both for students who are giving the feedback and for the presenters who must ask for and stay open to criticism. Before the actual poster session, we review the evaluation criteria handed out in an earlier class. We then take a second look at the posters I brought in earlier in the semester. We identify specific areas around which discussion should take place. I then model ways in which student presenters could solicit critical discussion and feedback, had they been presenting that poster. I also model ways that students as evaluators could ask questions that assess analytical and evaluative components of the research presented in the model poster. Finally, I have students generate a list of ques-

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tions and discussion points that they are still seeking to deal with in their research paper. I encourage the presenters to use that list to direct their discussions with peer evaluators and with other participants in the mock conference.

Conducting the Poster Session: Logistics

The poster session is held for just one hour. I find that this is enough time for students to have three or four substantive conversations with attendees and other participants. I start the session with a brief welcome to the students and other visitors. I explain the purposes of the session for presenting students: to present their research, to gather feedback that can be used to improve their paper, and to gain experience in making presentations. I play the role of host to facilitate substantive discussion between participants and attendees. Although I have provided feedback from the early stages of the research and writing process, I also make a point of talking with each of my students. This contact is generally brief and not very critical. My purpose is simply to offer encouragement rather than critical feedback which I will give later as I evaluate their posters outside the time constraints of an hour-long poster session. When the hour is finished, I formally end the poster session by thanking attendees and students. We raffle off the books from the publishers table and I collect the peer evaluations. I now turn to those peer evaluations.

Conducting the Poster Session: Peer Evaluations of the Posters

The presenters are each required to evaluate three of their peers' posters by using the evaluation sheet. To ensure that each poster is evaluated three times, I have each presenter keep three evaluation sheets by their poster so that students know that once all three have been filled, they do not need to be evaluated any more. I have groups of three or four presenters rotate through the evaluation process. This means leaving their poster for approximately 15 minutes and evaluating three other posters (where students are present). Although student evaluators may not be able to evaluate posters with a professor's critical eye, I find that student involvement in the evaluation accomplishes several things that contribute to improved capstone papers. First, it forces presenters to give a clear and short explanation. This is necessary because the student evaluators usually do not have a great deal of knowledge about the subject matter. Lack of deep understanding of the subject matter often means that the student evaluators demand that the poster be clear, concise, and easily accessible. Second, peer evaluations provide additional critical feedback through guided substantive discussion that the author can then integrate into the final paper. Third, it provides the student evaluators with a chance to compare their own poster to those of other presenters and to identify alternative ways of organizing and analyzing information. When grading, I average the student evaluations and count them as a predetermined percentage of the student's grade for the poster session.

As noted earlier, I do not evaluate the students' posters during the poster session. I find that the demands of assessing effectiveness and grading the poster during the poster session—when there are 18 to 20 posters to evaluate in a period just short of an hour and when I want to have critical discussions with each of the students presenting posters—is too tall a task; trying to accomplish all these things at once makes the poster session less effective. Instead, I collect the posters following the session and take them back to my office. I can evaluate them over the next day or two and spend more time on each. I use the same evaluation form as the students and also write additional comments or suggestions at the bottom of

Table #1
Name of Poster Presenter

Poster Evaluation Criteria					
Instructions to reviewer: Use these criteria to rate the poster presentation on a scale of 1–5 (1 = strongly disagree; 2 = disagree; 3 = neutral; 4 = agree; 5 = strongly agree).					
Appearance					
1. Display attracts viewer's attention.	1	2	3	4	5
2. Words are easy to read from an appropriate distance (1–2 meters).	1	2	3	4	5
3. Poster is well organized and easy to follow.	1	2	3	4	5
4. Graphics and other visuals enhance presentation.	1	2	3	4	5
5. The poster is neat and appealing to look at.	1	2	3	4	5
Content					
6. Abstract clearly summarizes the key components and results.	1	2	3	4	5
7. Research question and hypotheses are stated clearly.	1	2	3	4	5
8. Approach taken is appropriate for the problem and technically sound.	1	2	3	4	5
9. There is enough detail about methods for me to understand the results.	1	2	3	4	5
10. Results have an appropriate amount of detail and are easily understood.	1	2	3	4	5
11. Poster is free of unnecessary detail.	1	2	3	4	5
12. Conclusions are stated clearly.	1	2	3	4	5
13. Conclusions are supported by information presented in the results section.	1	2	3	4	5
14. I can identify both the limitations of this research and future research opportunities.	1	2	3	4	5
Presentation					
15. Presenter's response to questions demonstrated knowledge of subject matter and project.	1	2	3	4	5
16. Overall, this was a really good poster presentation.	1	2	3	4	5
Total	—	—	—	—	—

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the form. As with the peer evaluations, I tailor my comments to improving the quality of the upcoming capstone paper.

Integrating Feedback into Revised Drafts of the Research Paper

Following the poster session, I require the students to sit down with the written evaluations and the questions or discussion points they generated before the session and draft an outline that summarizes: (1) the key weaknesses or suggestions they received in the written evaluations; (2) the sticking points gleaned from discussions they had with others during the poster session; and (3) other weaknesses or gaps in the research and writing process that still need to be filled before the final draft of the paper is turned in. The students take that outline and draft it into a research progress report. This research progress report requires students to make sense of where they are in the research, analysis, and writing process, and to make specific plans to complete their paper. I encourage students to meet with me during the process of drafting this memo. Because by this point I have read a draft of their research paper I am able to give them additional direction in identifying weak areas in theory, grounding their research in the extant literature and theory, using empirical data, methodology, analysis, and conclusions, and in discussing limitations.

Conclusion

This process provides students with a wealth of feedback and socializes them into the practice of seeking out feedback throughout the writing and research process. Students also gain valuable experience making presentations—a necessary skill in scholarly and non-scholarly settings. As a result of this experience, students are generally much more comfortable with presenting their final paper to the class because they have already engaged in critical discussions about their paper during the poster session. The poster session also makes those later paper presentations more productive; each student has learned the difference between anecdotal, substantive, and theoretical discussion and sees the value of the latter in improving his or her research and writing. Finally, the quality of the capstone paper increases because students have followed a process that encourages them to seek critical and substantive feedback which they can then incorporate into their paper.

Notes

Adapted from Hess, George, and Elizabeth Brooks. 1998. "The Class Poster Conference as a Teaching Tool." *Journal of Natural Resources and Life Sciences Education* <http://www4.ncsu.edu/~grhess/papers/posterpaper.html> August 20, 2002

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