Student-led Journal Club

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Too often, news related to environmental issues emphasizes problems. Although environmental crises are indeed challenging, with multiple stakeholders and competing agendas, I focus on the strategies that produce "intended consequences" to protect species and habitats. One way I do this is by exploring examples of existing strategies or proposed approaches to controversial conservation problems found within the scientific literature. Early in the semester, I introduce two short journal articles. Students read, annotate, and discuss the main questions, results and implications of the papers as practice together in class. Then, students lead their own discussions of a pre-selected group of papers once per week throughout the semester (in person or on Zoom). Each student leads one or more sessions in which they summarize the paper and prepare discussion prompts. While occasionally initially awkward, the conversations about these papers improve quickly and frequently lead to passionate debate about the topic. The discussions are scheduled for 30 minutes but often go long, and I find that I rarely have to jump in to move the conversation forward; instead, I find that my role is simply to clarify concepts should they become confusing.

Guidelines and suggestions for: (1) leading the discussion and (2) participating in the discussion

1. *Leading the discussion*
   - Open with a brief summary of the major points of the paper
     - Choose a few main points or concepts that you think are the most important ones presented by the study; this shapes the direction of the conversation
     - Focus both on specific ideas in the paper as well as connections to course materials
     - How can we apply these findings or proposals to real-world problems?
   - Prepare questions to spark discussion. The questions should focus on responses to the content. Consider introductory concepts as well as the methodology, results, and analysis. What are the facts, and what do these facts tell us about how to address conservation problems? Avoid over-general, "What'd you think about this paper?" questions.
   - Do not use Powerpoint. Your summary should be oral, and if you need to make a point using a visual tool, use the whiteboard. This gives you more flexibility and enables you to interact with the rest of the group. It's also ok to write down points that people make on the whiteboard if you want to come back to them later.
   - Great discussions result from a discussion of what the study **means**. Try to limit the number of comprehension-style questions you ask the group, and focus on the implications of the study.
   - Some questions to get you started:
     - Who are the authors? Who paid for the study?
     - What is the context for the study? Are the issues addressed important? Why or why not?
     - Does the paper contain a clearly-stated hypothesis, and if so, what is it and is it testable?
     - What are the methods? Are they sufficient to answer the research question or adequately address the hypothesis? If the study is experimental, is there an adequate control? (Don't go into specific details – just focus on the general approach).

- Are the results properly analyzed and presented? Do the figures effectively communicate the findings? If not, what improvements would you recommend?
- If the study presents a problem or raises awareness of an issue, does it do an adequate job of presenting not only the problem but a potential solution? What is the goal of the paper?
- What conclusions does the study provide? Do you agree with their evaluation? Are alternate explanations discussed?
- What is the take-home message?
- How could the study and the paper have been improved?

- Try to make sure to include everyone in the discussion. It is OK to ask people who are keeping quiet what their interpretation of a particular point is, and it is also OK to politely manage the discussion (i.e. prevent one or two individuals from doing all of the talking).

2. *Participating in the discussion*
   - Read, annotate, and bring the papers. You will be graded not only on your ability to lead a discussion but also on your regular participation and contribution to discussions.
   - Make constructive comments that:
     - Introduce new ideas
     - Agree or disagree with other students' ideas AND provide support for your point (for example, don't just say you agree or disagree- tell us why)
     - Relate the paper to course topics or ideas presented in the course, or to your own experiences
     - Critique the paper – what works? What didn't? What was confusing?
     - Explain a concept to help answer another student's question or further develop their ideas.