

Breaking It Down and Building Them Up: Helping Students Develop Discussion Skills in an Upper-Level Seminar Course

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Abstract

As students enter upper-division courses, many are required to lead and manage discussions. Ultimately, students are assessed on whether they were effective discussion leaders. But what does this mean? A challenge that students may face as novice discussion leaders is that the task of managing a discussion is complex and requires multiple skills—these may not be readily apparent. In this project, we employed an instructional intervention to help make discussion skills more obvious and accessible to students.

Keywords: *higher education; student learning; critical thinking; discussion skills; learning support; instructional resources; Decoding the Disciplines*

Introduction & Background

Years of study and practice can make it problematic for faculty members to remember the challenges students face when assigned new and difficult intellectual tasks. The acquisition of more sophisticated thinking patterns and routines happens slowly over time, making the changes that are taking place almost invisible to both learners and instructors. For this reason, it can be difficult for faculty members to know how to address the skills gap, asking students to perhaps jump too high, or too far intellectually, which can lead to widespread frustration (Middendorf & Pace, 2004; Middendorf & Shopkow, 2018; Vygotsky, 1978; Wood & Middleton, 1975). Common examples of this occur when students are asked to analyze, reflect upon, or evaluate information. The intellectual strategies associated with accomplishing these academic tasks at the right level may be unclear or unknown to students (Gilligan, 1993; Graff, Birkenstein, & Durst, 2006; King & Kitchener, 1994; Magolda, 2006; Middendorf & Pace, 2004; Middendorf & Shopkow, 2018; Perry, 1970). Assumptions about what students should know or be able to do at the time of instruction can also become problematic.

To further complicate matters, faculty experts may no longer be fully aware of tacit knowledge or combined steps they take to complete complex academic tasks, which can result in an oversimplified approach to instruction. Michael Polanyi (1966) describes the difference between tacit and explicit knowledge as this: Explicit knowledge is that which can be written down or explained to the learner. Tacit knowledge on the other hand can be thought of as a certain “know-how” which is more difficult to articulate, such as riding a bike or interpreting data on a complex graph (Chugh, 2015; Ryle, 1945).

Before we began the project, students had been asked to lead a discussion in an upper-division social psychology seminar course at the undergraduate level. Despite detailed assignment instructions, rubrics, instructor modeling, and planning meetings, students struggled to reach the desired level of performance. An intervention was then created to help students improve their performance in planning and leading classroom discussions. The approach taken in this project was to first identify any tacit knowledge or processes used by the faculty expert while leading a seminar discussion, and then to teach these explicitly to students. Complex processes were broken down into component parts followed by the development of instructional interventions to help students build their skills at each step of the process. This paper describes the design and instructional processes used to accomplish this intervention and shares relevant resources for others wishing to incorporate student-led discussions in their courses.

Breaking It Down

Understanding What the Experts Do

Several instructional supports were already in place to explain what students were to do: rubrics, individual meetings with the professor, and detailed assignment instructions (Appendix A). However, knowing *what* to do and *what* to know is not the same as knowing *how* to do the assignment and *how* to think about things (McEwen, 2005). Middendorf and Pace (2004) describe this learning “bottleneck” in their Decoding the Disciplines model as a “point in a course where the learning of a significant number of students is interrupted” (p. 4). Overcoming

the bottleneck often entails identifying tacit knowledge or processes employed by the faculty member that cannot yet be seen or understood by novice learners (Middendorf & Pace, 2004; Middendorf & Shopkow, 2018). For example, students in a math course may spend time memorizing equations and solutions but may still struggle on exams if they do not acquire knowledge and experience about how to choose the right approach. The thought processes that go into solving a math problem may be fully unconscious to expert faculty members, who combine multiple steps into larger macro-moves or leave decision-making about strategy selection unarticulated (Middendorf & Shopkow, 2018; National Research Council, 2000).

As illustrated in the math example, this tacit understanding about how to do certain academic tasks goes beyond content knowledge to include a range of skills such as what experts notice (patterns and salient features), and how they organize, represent, and interpret information in order to analyze and solve more complex problems (National Research Council, 2000). Despite the existing supports that faculty members provide, these efforts may still fall short of what students need to improve performance, especially as processes and assignments become more complex. In the case of this project, we came to a deeper appreciation of just how complex the process of leading a discussion can be. From comprehension of the content, to developing good questions, to incorporating critical thinking, to facilitating the actual discussions, there are many layers of objectives and skills that need to be untangled before students can perform adequately. Our first objective was to try to make the tacit knowledge and approaches of the expert more visible.

Decoding

Middendorf and Pace (2004) describe several methods to make tacit knowledge and approaches more explicit. One method involves an interviewing process in which non-experts ask experts to provide analogies that describe in everyday terms what they are thinking or doing. During the interview, the bottleneck is identified, and then questions are asked to uncover the steps used by the expert to describe how they approach or understand a topic. It is important for non-experts to ask the questions, as they would be more likely to identify any steps or missing information that the expert has long ago routinized or fashioned into larger chunked macro-processes. Middendorf and Shopkow (2018) describe a history professor who used the analogy of a chess game to explain the interaction between the three branches of U.S. government. The analogy is substantial enough to provide multiple layers of explanation about how interactions happen. Importantly, however, while using the analogy to explain the interactions between the branches of government, the faculty member had an important insight. Namely that the *strategic choices* being made in chess and during government interactions were also critical to understanding the topic, and he had not been teaching that aspect explicitly. This insight made it possible to change the instructional approaches to better teach both aspects of the topic, interactions and strategic choices.

In the case of the current project, the instructional designer (ID) interviewed the faculty member about existing support documentation and assignment expectations. Furthermore, it was determined that the ID would observe two class sessions in which the faculty member was leading the discussion in order to identify any additional skills and processes that were being employed, but perhaps not explained, in the assignment support documentation.

Identifying the Gaps

During the observation, several items stood out which could be incorporated into instructional materials. At the macro-level, there was clearly a logical order to the sequence of questioning which provided a narrative framework through which the discussants were led. Ideas flowed from opening remarks, through important concepts to concluding statements, tied together neatly with important transitional phrases. Likewise, questions were also scaffolded through increasing levels of intellectual complexity. This type of organization in a discussion is equally as important as it is in writing clearly or in reading for deep comprehension. Therefore, students should be directed to first create a discussion plan that takes this organization into account. Questions should be designed within a carefully considered hierarchy to create an overall narrative which builds upon ideas, supports comprehension, and prepares for more complex thinking.

In addition to using an overall organizational structure, facilitation cues were heavily used to move the discussion forward in important ways, such as eliciting more information, asking for examples, and encouraging critical thinking, to name a few. The facilitation cues observed during the discussion are found in Table 1.

Table 1

Facilitation Cues & their Functions as Observed during Faculty-led Discussion (Author)

Facilitation Cue	Function
Let me throw out an example... Can you give me an example...?	Eliciting examples
Can you summarize what you (we) just said?	Requesting summaries
How does this map onto what we've already discussed...? Let's come back to this... Look at this juxtaposition... Do you have a theory behind this?	Making connections
Who thinks that...?	Taking a poll
So, you're saying that...?	Asking for clarification
Can you take this line of thinking further?	Requesting elaboration
This is a really important point...	Adding emphasis
Does this mitigate the outcome?	Examining impact

It sounds like you are all agreeing to...	Checking consensus
Come up with an intervention for...	Creating solutions
Can you give me more details?	Requesting specificity
Let me leave you with this...	Drawing conclusions

This list illustrates the important use of rhetorical cues in a discussion and serves as an excellent example of one piece of tacit knowledge that could go virtually unnoticed by an expert practitioner but which would provide students with an important tool to wield in their own discussion facilitation.

Finally, there were certain housekeeping and managerial acts that took place which students should consider: keeping the discussion on track, getting all participants involved, pointing out themes and new insights, and preparing concluding statements in real time, for example.

The skills observed during the instructor-led discussion were compared to the assignment description, looking for any missing items. The following is an excerpt from the assignment description:

Leading a seminar discussion is not something that can be precisely defined and is not something I can give you direct instruction on—it's not the same as trying to teach you what the theory of social learning is, just for example. When you lead discussion, you are responsible for the following: managing the flow of the discussion, keeping track of time, making sure the discussion stays on track, getting all individuals to participate as equally as possible, helping students to respond directly to previous comments and each other, providing explanations and clarifying questions/answers, in addition to advancing the conversation to more critical levels (getting us to go beyond the obvious). Overall, this process is quite complicated, and it is a learning process—meaning that in order to acquire the necessary skills, you need to observe, practice, and put in a great deal of preparation for your discussion leading session.

This description, in conjunction with other support materials, was very complete. We did not find any obvious omissions, so what was the issue? As we pondered this, it became apparent that the problem was related to the *what* versus *how* dilemma. As stated previously, as instructors, we often tell students the *what* of the assignment—for example, getting students to discuss topics at more critical levels—but not the *how*. How are they supposed to do this exactly? As a result of this insight, we developed support materials (three, thirty-minute instructional videos with accompanying handouts) showing students *how* to do important tasks that they could complete outside of class time and incorporate into their own discussion planning. The videos also highlighted the intellectual “moves” that the faculty member made during the observed sessions so that students could make concrete connections to the ideas being presented. The information in these videos was highly specific to this course. In order to make this information more useful

to a wider audience, a website was developed to include a more generic description of the important points at <http://bit.ly/greatdiscussions>.

Building Them Up

After settling on our approach, we prioritized the features that would make the largest impact if students incorporated them into their own discussions. The prioritized areas were: developing an overall discussion plan, creating good questions, building critical thinking into the discussion, and using facilitation cues to move the discussion forward.

Developing an Overall Plan

Knowing how to create appropriate discussion goals was an important first step. In this case, students were introduced to Bloom's Taxonomy, a model that organizes educational goals from cognitive, affective, and psychomotor domains into varying levels of complexity (Anderson & Krathwohl, 2001; Bloom, 1956). Providing the action verbs associated with the different levels in Bloom's Taxonomy helped students to design the discussion to include higher-order thinking tasks. Cognitive and affective domains in the taxonomy were covered to include knowledge, attitudinal, and value-based goals as needed. Providing the framework to explicitly account for higher-order thinking turned out to be helpful for students. For example, students could easily see that asking discussants to "list" the main points on a topic leads to very different outcomes than to "create a solution for..." Students received instruction on the various levels of questions used by the instructor throughout the discussion.

Understanding Bloom's levels also helped students to create a more logical narrative flow to the discussion plan. Were there certain questions that needed to come first before more complex questions could be addressed? To illustrate this point, students were presented with a concept map explaining the narrative arc of the instructor-led discussion. A brief assignment was given in which students analyzed the flow of that discussion using Bloom's Taxonomy to identify the levels of questions asked as well as the sequence. The concept map helped them also to visually get a sense of the overall discussion plan. Students were encouraged to create a concept map of their own discussion narrative as a planning tool and use Bloom's Taxonomy to prepare the sequence and levels of questioning. Additionally, they received a checklist to be used during their discussion which included all of the typical housekeeping tasks described in the assignment (see Appendix B).

Creating Good Questions

Having a concrete general plan and explicit goals for the discussion are important, but students needed more support in generating good questions. Bloom's Taxonomy is a satisfactory starting place for creating questions at different levels of complexity, but other resources were also useful. Berger (2014) refers to a process devised by Rothstein and Santana (2011) called the Question Formulation Technique (QFT). In that process, students brainstorm as many questions as they can around their stated (discussion) goal. They do not stop to judge, edit, or revise anything during a five-minute brainstorming session. Afterwards, they examine the list and

change any statements into questions. They then analyze the questions, putting them into useful categories such as open/closed, higher-order/lower-order, and in this case, according to the important themes to be covered in the discussion. Afterwards, they determine the value of each question, adjusting as needed. In the last step, they prioritize and sequence the questions in the list according to their overall goals. In this process, students improve at evaluating the level and quality of the questions they plan to include in their discussions (Rothstein & Santana, 2011).

Another resource that could be used in generating good questions is Fink’s (2003) Taxonomy of Significant Learning. This framework, used to develop college courses that lead to lasting change, can also be used to generate meaningful, engaging, and thought-provoking questions for a discussion. The six categories in the taxonomy, including general descriptions and sample questions, can be found in Table 2. Here, students could design for energetic and engaging discussions which can be quite motivating, as students ask and seek answers to more personally meaningful questions.

Table 2

Significant Learning Taxonomy with Descriptions and Sample Questions (Fink, 2003)

Element	Description	Sample Questions
Foundational Knowledge	Understanding information & ideas	What are the important concepts from this reading?
Application	Critical, creative, and practical thinking	What solutions can be designed to address this issue?
Integration	Connecting ideas, people, and realms of life	What are the common themes across the various articles being discussed? Where do you see these themes being played out in other areas of life?
Human Dimension	Learning about oneself and others	What can these ideas teach us about ourselves and others?
Caring	Developing new feelings, interests, values	After considering the topics discussed today, have you noticed any changes in how you perceive “x”?
Learning How to Learn	Becoming a better more self-directed student & inquiring about subjects	About which additional topics has this discussion made you curious?

Finally, Ritchart, Church, and Morrison (2011) have developed an excellent resource that could be used for question generation—a “map of [the] thinking involved in understanding” (p. 11). Because the overarching goal of most discussions is to build deep understanding about a topic, questions generated around the eight elements in their map could prove useful:

1. Observing closely and describing what’s there
2. Building explanations and interpretations
3. Reasoning with evidence
4. Making connections
5. Considering different viewpoints and perspectives
6. Capturing the heart and forming conclusions
7. Wondering
8. Uncovering complexity and going below the surface of things

There are many tools that could help students generate better questions at appropriately complex levels. Those shared herein can improve students’ abilities to notice salient aspects of questioning such as: 1) the importance of the structure and sequence of questioning, 2) engaging participants and encouraging curiosity, and 3) using questions to drive learners towards ever deeper levels of comprehension.

In addition to incorporating more sophisticated questioning techniques, there is yet another layer of design that students should explicitly account for in their discussion plan—how to encourage critical thinking.

Building Toward Critical Thinking

Once students have their discussion plan and questions in place, it is important that they understand how to incorporate and encourage critical thinking (CT) during the discussion. While Bloom’s Taxonomy can address this in the planning stages, it may not be as useful to account for it in the actual discussion. To provide resources to this end, several additional frameworks were shared.

Paul and Elder (2006) define CT as a person’s willingness to see things fairly with a motivation to figure things out. The elements of CT that guide one’s analysis of thought are: 1) purpose, 2) point of view, 3) identifying concepts, 4) framing the problem, 5) using information in critical ways, 6) drawing inferences and conclusions, 7) unearthing assumptions, and 8) identifying implications (Paul & Elder, 2006). Nosich (2012) combined this framework with the Socratic questioning technique to generate a series of questions that can be used to analyze a piece of reasoning at any point in a discussion (Table 3).

Table 3

Paul & Elder’s Elements of Critical Thinking in a Questioning Framework (Nosich, 2012)

Element	Socratic Questions
Purpose	What is the author’s main purpose in the reading?
Key Questions	What are the key questions or problems the author is raising?

Information	What evidence is supplied to support any claims?
Conclusions	How is the author interpreting the issues? What solutions are offered?
Concepts	What are the main concepts being discussed? How do they fit together?
Assumptions	What is being taken for granted in this argument?
Implications & Consequences	What are the consequences (unforeseen or otherwise) of this line of reasoning? Why is this question important?
Point of View	How would someone in another context view this? Are there any voices missing?

Our goal in this section was to give students a framework and tools by which to develop their own and other’s critical thinking during the discussion. In the next section, we provide support for facilitating the discussion.

Facilitation

Students at this point have been given multiple tools to help them develop a discussion plan that encourages complexity and generates interest. The final piece of the puzzle lies in the actual live discussion. What tools could be used to manage the live action of a discussion? In this case, language again is the portal through which the development of thinking happens. Students may know in general where they want the discussion to go but lack the rhetorical cues to direct it. Providing students with sample facilitation cues (Table 1) is a good starting point.

In addition to these cues, students were furnished with Paul and Elder’s (2006) framework for *evaluating* CT (Table 4). These questions could be used as a touchpoint during the discussion to encourage participants to reach deeper, more critical thought.

Table 4

Evaluation Standards of CT with Associated Questions (Paul & Elder, 2006)

Standard	Associated Questions
Clarity	Could you explain this further?
Accuracy	How could we verify that?
Precision	Could you be more specific?
Relevance	How does this relate to the issue?
Depth	What factors make this more complex?
Breadth	Do we need to look at this from other points of view?
Logic	Does this argument make sense as a whole?
Significance	What is the most important aspect to consider?
Fairness	Am I representing all sides fairly?

Discussion

This project turned out to be a very worthwhile collaboration between a faculty member and instructional designer, bringing the best of both worlds (content and pedagogical support) to bear on an important classroom problem. Many programmatic goals state that by virtue of

completing a degree in “x,” students should become adept at participating in and facilitating discussions that demonstrate critical thinking and more sophisticated disciplinary expertise, yet the roadmap for attaining this is often unclear and the time allotment unspecified. It may be assumed (at an institution’s peril) that as students go through the sequence of courses to graduate in any given major, they will simply gain the underlying skills that make this goal a reality. For some students, this may indeed happen, but for many, this approach may leave them lacking in an important skill set. Brookfield and Preskill (2005) identify fifteen benefits of using discussion as a learning technique, including some of the following: exposing students to multiple perspectives on a given topic, increasing intellectual agility, encouraging attentive listening, affirming students as co-creators of knowledge, developing the skills of synthesis and integration, and investigating assumptions and biases, all of which can lead to the transformation of thinking. However, he also points out important pitfalls which can be limiting to student learning when using discussion as a learning approach: unrealistic expectations, inadequate student preparation, not setting important ground rules, failure to connect discussion goals to learning content, and absence of modeling behaviors during the discussion (Brookfield & Preskill, 2005).

Most faculty members have experienced the limitations that ad hoc classroom discussions can engender, yet is this what we are really doing to students when we fail to prepare them for the complexities involved in planning and leading a discussion—placing them into a situation without all the pieces in place to be successful? It takes skill and planning to effectively manage a classroom discussion. Yet faculty members may be very unaware of the complex underlying processes—acquired over time—that they employ during a classroom discussion. They may mistake their expertise for simplicity and therefore fail to share with students *how* to wield the tacit underlying skills necessary to perform at adequate levels. It is this tacit knowledge that we sought to uncover in this project by breaking down the process of designing and facilitating a discussion into its component parts and by creating resources for students that showed them how to manage a discussion throughout the entire process. The Decoding the Disciplines framework was key in helping to identify the missing pieces of instruction (Middendorf & Pace, 2004; Middendorf & Shopkow, 2018).

Conclusion

Overall, we sought to develop an intervention that would turn faculty tacit knowledge into explicit knowledge for students in order to help them become more effective discussion leaders. Feedback from students indicated that the provided instructional tools not only gave them more confidence but also helped them to prepare for and manage the discussions because they created explicit goals and objectives to focus on for each discussion. Another goal of this project was to make these resources accessible and available to other instructors. Appendix A contains the original course documents (assignment description and rubrics), which are still very appropriate for use. Resources used in this project are gathered into a generic online module (available at <http://bit.ly/greatdiscussions>) that can be used in a variety of courses to help students create a well-managed and successfully facilitated discussion. In providing this additional resource, we hope to give students both the *what* and the *how* needed to be successful in future discussions, thereby reaping the benefits described by Brookfield and Preskill (2005).

One limitation to this approach is the time needed for students to acquire the supporting skills mentioned. Additional assessments might be needed to encourage students to engage in more of the supplemental instruction. This, however, would also add to the grading load for faculty members, which might not be practical or possible. In the current case, the faculty member struck a good balance between sharing the information as supplemental resources and creating one additional graded assignment on writing effective discussion goals, deemed one of the more important outcomes of the project. In the end, faculty and students both anecdotally indicated satisfaction with the additional support provided, as well as the quality of the student-led discussions. A second limitation is that the full approach is highly structured, which may impact students' creativity and freedom to improvise during discussion. However, after the experience, both instructor and instructional designer felt that a more streamlined approach could be used, so as not to overwhelm students with too much content and faculty with too much additional assessment. The skills identified in this project could be spread out over the sequence of courses in a curriculum, building in sophistication as students advance in their work. Over time, a simpler and streamlined set of tools would give students more freedom and opportunity to be creative in their discussion leading.

Another limitation is that this project examined student-led discussions in a single seminar course. Thus, while we believe these tools and resources may be useful for instructors, more empirical work should be conducted to systematically test the theoretical aspects of this approach, in addition to its effectiveness. This project also points out both the complexity and benefits of using discussion as an instructional approach. It may therefore warrant closer scrutiny by curriculum planners, leading to more explicit opportunities for students to learn about leading discussions as a regular part of the course sequence, so as not to leave the acquisition of this important skill set to chance.

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Appendix A Discussion Leading Guidelines

Each student will lead a discussion once during the semester (worth 7% of your grade; grading out of 80 points). Leading a discussion is important because it requires you to demonstrate multiple skills that are each important for a majority of careers and other professional settings. Discussion leading requires you to be a good leader, an efficient communicator, a critical thinker, and a multi-tasker.

Leading a seminar discussion is not something that can be precisely defined and is not something I can give you direct instruction on—it's not the same as trying to teach you what the theory of social learning is, just for example. When you lead discussion, you are responsible for the following: managing the flow of the discussion, keeping track of time, making sure the discussion stays on track, getting all individuals to participate as equally as possible, helping students to respond directly to previous comments and each other, providing explanations and clarifying questions/answers, in addition to advancing the conversation to more critical levels (getting us to go beyond the obvious).

Overall, this process is quite complicated, and it is a learning process—meaning that in order to acquire the necessary skills, you need to observe, practice, and put in a great deal of preparation for your discussion leading session. In order to prepare you for leading discussion: (1) You will observe multiple discussions led by me. (2) There will be three classes early on in which our campus instructional designer will attend to observe and help us to identify strategies that students can use to develop effective discussion questions, in addition to helping us identify what a good discussion leader does. (3) You will practice developing discussion questions a few different times before you lead your own discussion. (4) You will meet with me before and after leading your discussion.

For this assignment, I am asking that you meet the following requirements:

1. **Reflection paper** (20 points) – You will complete a reflection paper on how exactly you prepared for leading the discussion. This paper should walk me through the exact steps taken, in addition to explaining to me how and why you developed each of your discussion questions. A draft of this is due when you first meet with me. The final draft is due the day of your discussion (i.e., so that you can add in reflections about anything else you did after meeting with me).
2. **Discussion Questions** (10 points) – The student generates their discussion questions and submits them in a timely manner. This is graded on a pass/fail basis.
3. **Meetings with Dr. M** (20 points) – You will meet with me twice—once before your discussion, and once after. The first meeting will be utilized to give you feedback on your plan and your discussion questions. The second meeting will be a debriefing where we discuss how things went. Both of these meetings will be graded on a pass/fail basis. Please note, that if you are not prepared during these meetings, your actual discussion leading grade will be impacted.
4. **Discussion leading** (30 points) – Your actual discussion.

Discussion Leading Rubric

1. Demonstrates sufficient knowledge & preparation (10 points)

- The discussion leader demonstrates knowledge of the major details and ideas from the readings.
- The discussion leader shows a sufficient level of preparedness.
- The discussion leader was prepared for meetings with Dr. Muscanell.
A number of factors affect my assessment of how prepared you are, including:
 - (a) What is the quality of the discussion questions submitted by the student?
 - (b) Did the student identify the most relevant/important topics through their discussion questions?
 - (c) How much effort did the student put into developing and revising their discussion questions?
 - (d) Is it clear that the student had good reasoning for including certain questions?
 - (e) How much thought did the student give to anticipating the responses their questions might generate?
 - (f) Did the student prepare follow up questions?
 - (g) Did the student prepare their own responses to the discussion questions?
 - (h) To what extent did the student engage in further research on the topic?

2. Helps to generate discussion that is critical (10 points)

- The discussion leader ensures that the discussion does not become too superficial, anecdotal, or irrelevant.
- The discussion leader tries to advance the conversation by adding questions/responses that introduce complexities in the discussion.
- The discussion leader ensures that we advance ideas by encouraging students to respond to each other and to build upon each other's ideas.
- The discussion leader identifies common themes or relations between students' responses and uses these to help bridge students' ideas.
- The discussion leader effectively focuses on expanding the important issues during the discussion, while redirecting us and/or moving us past less important issues.

3. Encourages all students to participate (5 points)

- The discussion leader listens well and responds appropriately to others.
- The discussion leader ensures that all students are included in the discussion.
- The discussion leader ensures that no student(s) dominate(s) the discussion.

4. Manages time well (5 points)

- The discussion leader ensures that we discuss the most relevant points of the reading(s).
- The discussion leader ensures that we don't spend too much (or too little) time on one idea/question.
- The discussion leader avoids excessive presentation/explanation.
- The discussion leader redirects us if we get off track or distracted.

What to expect on student discussion leading days?

On days where students lead the discussion, I will be silent for a majority of the class. I am pretty much an observer on these days. During class, I take very careful notes about what was said during the discussion. Occasionally, I will jump in to add a point. Please note, that if I add something to the conversation, this is not necessarily something that is reflective of how the discussion itself is going (e.g., this does not automatically mean the discussion is going poorly, or that it is going well). The discussion leader and/or other students are also free to ask me questions that may not easily be answered by students—for example, to clarify what an advanced statistical test is, or to point out an issue that only an experienced researcher may be aware of.

