

Classroom Visitation Form

Southwestern is committed to creating a culture of excellence for our students, staff, and faculty. One of the ways we fulfill our commitment is through peer-to-peer feedback and mentorship on each other’s teaching. This Classroom Visitation Form is designed to provide a framework for peer teaching observations, helping to assist the instructor in the performance of their duties, and to encourage and support their professional development over time.¹ The form is comprised of two components: a pre-observation form, to be completed by the faculty being observed, and a post-observation form, to be completed by the observer. The two components work iteratively to promote constructive feedback, pedagogical reflection, and ongoing dialogue to promote faculty members’ continual development over the course of their careers at Southwestern.

Pre-Observation Form (for Faculty being observed, please complete this form and return to the person observing your teaching)

Faculty Member: Benjamin V. Holt	
Course: MTH 105	Date: 5/17/2019
Observer: Maidie Rosengarden	
Name and Topic of Class Session: Voting Theory: The Plurality Method	

1. Learning Outcomes

What is/are the objective(s) of the class session? What do you want your students to know, understand, and/or demonstrate as a result of your instruction?

1. Understand the idea of a ranked-voting system. Be able to assemble ballots into a “preference table.”
2. Learn the plurality method for deciding the winner of an election. Use a preference table to decide which candidate wins an election by the plurality method.
3. Learn what a fairness criterion is and how to use it to decide if an election is considered fair. Learn the “head-to-head comparison” criterion and how to apply it to decide the fairness of an election.
4. Understand that the plurality method does not always fairly decide elections.
5. Learn some of the history, warmth, and humanity behind these methods and ideas and how they relate to the origins political thought in our country.

¹

Collective Bargaining Agreement, Article 16.1

2. How do you plan to achieve this/these Outcomes?

I will deliver a lecture concerning the topics of ranked voting, the plurality method of deciding elections, and how to use a fairness criterion to decide if the election was decided fairly. Through examples, I will demonstrate how to construct a preference table from ballots cast, and from the table, how to decide by the plurality method which candidate wins. I will also give examples of how to apply the “head-to-head” fairness criterion to decide if an election is fair.

If there is time, I will then have students work in groups in order to give them guided practice. Students will try a set of example problems which are similar to homework.

3. Instructional Techniques Being Used (select all that apply):

- Lecture
- Class Discussion
- Small group activities
- Individual Student Assistance
- Interactive activity
- Lab
- Web-enhanced
- Other: _____

4. What will you do to help students reflect on and enhance their learning?

What will you do to help students look back on their learning? What will you do to help students enhance their learning process?

I will have students work together to solve problems in order to immediately practice the ideas presented in the lecture. Students who are more confident with the ideas will help students who feel less confident. The stronger students will benefit by articulating the ideas presented in lecture in their own words, and their peers will benefit by hearing a perspective on the material other than my own. As students work together, I will assist students either in groups or individually to complete the worksheet in order to better prepare them for attempting homework problems on their own.

5. What do you hope to learn from this observation?

What feedback would you like the observer to provide during your lesson to help you better reflect on your practice?

The mathematics behind how we make collective decisions is, on my opinion, at the heart of what this course is about: mathematics and society. With this introductory lecture, it is my hope that students will gain some initial sense of the richness and importance of the topic.

Does the spirit of this material come through, or is it choked out by overly-technical exposition?

Is the manner in which I presented the ideas sufficiently engaging and motivating?

Post-Observation Form (for classroom observers, please complete this form and return to the instructor. Please note that due to the variety of activities in which our faculty engage, some of the items may not be applicable to each instructor.)

1. Development of Learning Outcomes

Please describe and demonstrate (with specific examples) how and/or to what extent the objectives and outcomes identified by the faculty member were met during the class session.

Ben listed these five learning outcomes for this lesson, see comment after each outcome.

1. Understand the idea of a ranked-voting system. Be able to assemble ballots into a “preference table.” The observer cannot assess “understanding,” however, the students watched Ben draw and fill in a preference table, and they assisted the process through verbal answers as a group, in the completing of comparisons and addition correctly.
2. Learn the plurality method for deciding the winner of an election. Use a preference table to decide which candidate wins an election by the plurality method. “Learning” the method can’t be assessed here, however as with #1 students were able, vocally, to correctly identify the winner of an election using the table on the white board.
3. Learn what a fairness criterion is and how to use it to decide if an election is considered fair. Learn the “head-to-head comparison” criterion and how to apply it to decide the fairness of an election. “Learning” for these can’t be assessed, however, students were observed taking notes, were provided opportunity to ask questions about fairness, and were given the information on a power point slide. Students were able to state vocally when an election was not fair, or was fair.
4. Understand that the plurality method does not always fairly decide elections. Students “understanding” can’t be measured in this lesson. Students were provided clear examples of the plurality method and many responded correctly to questions posed by Ben regarding the fairness of the example election.
5. Learn some of the history, warmth, and humanity behind these methods and ideas and how they relate to the origins political thought in our country. Again, their “learning” isn’t assessable, however, Ben provided numerous examples of how we are impacted by this topic.

In spirit, these outcomes were probably met. Perhaps using more measurable language such as practice, discuss, answer, describe, explain, would have made it easier to say with certainty that an outcome was met. For example, “Correctly calculate winner of such and such election in a preference table.” – most students probably met this outcome as Ben asked them verbally to work the problem with him, and most answered correctly. Each outcome was discussed, introduced, and elaborated on in the lecture.

2. Teaching Effectiveness:

- Main ideas are clear and specific
- Sufficient variety in supporting information
- Relevancy of main ideas was clear
- Instructor related ideas to prior knowledge
- Definitions were given for vocabulary

Specific examples of teaching effectiveness observed:

The main ideas were clearly stated and shown on a power point slide, definitions were read out loud. The supporting information related to student's lives and to the college, so were interesting and relevant. The inclusion of a historical figure provided additional relevancy and depth, in addition to connections to prior knowledge of not only math, but history.

3. Presentation and delivery:

- Communicates audibly and clearly
- Establishes and maintains eye contact with students
- Varies pace and tone to keep students alert
- Uses a presentation style that facilitates note-taking
- Uses positive and appropriate humor
- Incorporates various instructional supports (film, diagrams)
- Other: _____

Specific examples of teaching presentation and delivery observed:

Instructor uses audible, clear vocals, enunciates, makes eye contact, scans for raised hands. Often pauses in pacing to allow students to contemplate/consider, and take notes. Habitually uses drawings, power point slides, hyperlinks, and read aloud methodologies to assist a variety of learning styles. Instructor uses appropriate humor, and allows students to lead conversations with humor, keeping responses matched and appropriate. Instructor regularly invited class to answer questions posed, both in mathematical problem solving and word answers.

Observer did not see instructor call on students individually. It is possible that there were

students who were lost, who may not have responded to the invitations to answer.

4. Student Involvement:

- Attends respectfully to student comprehension or puzzlement
- Responds to changes in student attentiveness
- Asks questions of students that challenge them to think more deeply
- Invites student participation and comments
- Incorporates student responses when appropriate
- Encourages students to respond to their peers throughout the discussions
- Treats students with respect
- Uses positive reinforcement to encourage student participation and intellectual risk-taking
- Encourages students to interact civilly/respectfully with each other
- Other: _____

Specific examples of student involvement observed:

Instructor was respectful to all student comments and questions, routinely invited students to think more deeply as a class, and accepted all answers, incorporating responses and connecting them to the material, even if they were not exactly “right.” Instructor did not call out student who placed head down for part of class, which appeared appropriate during this session. Students did not work together in this lesson, so observer was not able to see how instructor managed peer to peer interaction. Often said, “Right” “Well done” when answers offered were correct, and even used some humor “Oopsy” when instructor made a mistake, a nice way to encourage risk-taking through accountability.

5. Learning environment:

- Students seemed to be interested and taking notes during class
- Checks for understanding periodically
- Promotes student involvement
- Students participated in active learning activities
- Addresses potentially disruptive behaviors before they impact the learning environment
- Students were given an opportunity to apply learning through practice, project, case studies, etc.
- Creates opportunities for students to practice relevant skills
- Develops student independence by encouraging students to assume responsibility for

their own learning

- X Solicits student feedback
- X Listens carefully to student comments and questions
- X Encourages critical thinking and analysis
- Other: _____

Specific examples of the learning environment observed:

Instructor ran out of time, so active learning practice was not observed. Often asked students if they had questions, invited participation, and by working problems together, provided them an opportunity to apply learning through practice. Developed independence by indicating that there would be a worksheet coming. Carefully listened to all student comments and questions and responded to all.

6. Overall summary of / reflection on classroom observation

Ben stated, *“The mathematics behind how we make collective decisions is, on my opinion, at the heart of what this course is about: mathematics and society. With this introductory lecture, it is my hope that students will gain some initial sense of the richness and importance of the topic.*

Does the spirit of this material come through, or is it choked out by overly-technical exposition?

Is the manner in which I presented the ideas sufficiently engaging and motivating?”

Overall, the first outcome mentioned was well met. The introductory lecture was interesting, well paced, provocative, and relevant. The addition of history and discussion of “fairness” lent a richness to the topic that is critical to the teaching of citizenship, one of a teachers “big charges.”

The spirit of the material was well evidenced, and not all at all overly technical. The techniques presented were necessary to the accurate working of the math. Based on the thoughtful question posed by one student, it appeared that some students may be intrigued, and want to know more.

The manner used by Ben was engaging and motivating as appropriate for a variety of students. Ben brings a thoughtfulness, an attentiveness, that is particularly unique and extremely respectful. For the student just trying to pass, the student who does not like math, and the student is being brought alive by these topics, Bens presentation meets all with respect and acceptance.

In this second observation of Ben Holt, this year (first in fall) this observer sees real growth, traction and comfortableness in pacing, the use of a variety of teaching methodologies, solving of

troublesome issues (such as the time) – addition of other materials in just the right amount to meet time requirements and student attentiveness. Ben made more connections with students and seemed to “know” them so that he could meet them and scaffold as needed. The attention to detail with making problems and questions relevant and interesting spoke to a teacher who is student focused, while at the same time provoking new ideas.

Peer Review Member’s Signature

Date

Faculty Member’s Signature

Date

The Faculty Member’s signature acknowledges review and receipt of this form and does not constitute agreement.

Classroom Observation May 17, 2019

Arrived at 10:50 AM to Sitkum 7. Students began entering and sitting at desks. Ben arrived at about 10:55 AM wearing a brown sweater, blue jeans, and brown leather shoes. Ben began by greeting students and preparing the classroom (turning on projector/computer/opening his website). Ben wrote on the board, “Exams will be graded this weekend.”

Ben continued to chat with students, one expressed feeling stupid when asking for help, Ben responded, “Asking for help is problem solving” and went to mention that many people who are experts have to ask for a lot of help as they know a great deal about a particular topic, and less about a lot of topics. “I can help you, drop by my office during my office hour – bring your device, it might be simpler than you think.” Student replied, “I’ll stop by.” Another student

asked, “Is there a POW this week?” Ben replied, “No, I didn’t assign one so you could have time to study for your exam.” Another student asked, “When will the exams be graded?” Ben replied, “I’ll be grading them the weekend.” Student, “Oops, I didn’t see you wrote that on the board.” Ben went to discuss that the class would be doing some voting on upcoming topics, there was some general joking about voting, a student stated, “Can I make a collective decision not to vote?” Ben joked with him and stated, “I’m really excited about today’s topic, I think it’s important.”

Ben had pulled up on the white board the time according to the National Standard, and there was some general joking about classroom clocks, and the “real” time.

By 11:00 AM, seven students had entered the room with two more arriving a few moments late, for nine total students in the room for the class period. Ben introduced the topic as one very relatable to math and society, voting, and Social Choice Theory. Ben stated, “It is a hard fact of life that the plurality method doesn’t choose candidates fairly, in fact it ignores other preferences.” Ben talked about methods of voting and how voting is a part of modern life. Ben went on to explain a bit about the method, a student asked, “Is it like psychology?” Ben replied in general that there was a lot of math to the theory, he would be introducing it, and they would be scratching the surface of this concept in the class. Ben projected a definition of the plurality method with a problem stated, “Mr. Holt’s math 105 class is deciding what topics they would to study next...”

Ben then went on to describe ranked voting using a graphic of the potential ballots that might be cast in the scenario. Ben defined what a preference table is by drawing one on the white board, working through the process of counting and labelling the voting and explaining how ranked voting works. Ben used power point slides to define terms and show the steps to the procedure. He also used his drawing on the white board to show computations.

One student put his head down for a portion of the class in the back of the room. Most students were observed taking notes, one student listened, made eye contact, but did not take notes.

Ben mentioned that there would be a worksheet that would provide the class an opportunity to work through one themselves, and he gestured to stack of papers on his table.

Ben went on to explain that not all elections are fair, that he would now discuss how that happens, and how elections can get more complicated. In his second example, he displayed a voting scenario that had a number of options and ballots. Ben explain how plurality voting takes 1st place into account, which is both an advantage and disadvantage, and then explained fairness criteria, and how it can be applied to voting. Ben asked, in head-to-head comparisons, what makes it fair? “We are going to be surprised by what happens.” He then stated, “We will do an example, do not fear!”

Ben went back to the first example of the vote for the math class and using the white board wrote the methodology for head-to-head comparisons, asking the students to help him with counting. Ben demonstrated how in this case the winner won fairly in a head-to-head tally.

Ben then turned to the second example and computed the head-to-head comparisons, first describing the steps to the method and then working through each step asking the class to “help me out here” with the simple addition of each step. As he worked through the example, it became clear that using the methodology the winner identified the first time was not the winner identified in the head-to-head count.

A student raised his hand and asked Ben what would happen in a scenario with candidates – he presented a complex scenario in which a candidate may win a by popular vote but not in a head-to-head count. Ben listened and stated, “Yes, that can happen.” Ben went on to discuss how it is difficult to create that scenario, and that it is complex to invent criteria, but that the student was right in his question and understanding of the concept.

Ben then displayed a slide of Condorcet – 17th century thinker and mathematician to “adds a face” to the theory they are discussing. He talked about the life of Condorcet, personalizing his history and provided a link to more information.

In the final few minutes of the class, Ben reviewed the second example again and linked voting to power systems and data collection. As class ended and Ben dismissed students one commented, “E pluribus Unum? Right?”