Teaching-as Research (TAR) Plan
"Economics of Microfinance: Beyond Group Lending"
ECON 465–Spring 2017
Course Instructor: Dr. Adel Varghese
Time and place: March 20th 2018, 4:15pm-5:30pm, Allen Building Room 1002

Enhancing group discussion participation by posting topics before class time
By Piruz Saboury

I have been working as Dr. Varghese's teaching assistant for several semesters. As part of his teaching strategy at the beginning of each semester he assigns students to discussion groups of 3 or 4 to promote interaction and dialogue between students. During lecture he brings up questions or problems and asks students to discuss them within their assigned groups.

An issue we keep facing is that in many instances and for various reasons some students are reluctant to participate in group discussion and rather keep quit. As discussed in the college classroom teaching course, one way to incentivize students to take part in group discussions is to post the topics in advance and ask students to think about them before coming to class. This way they are more likely to have "something interesting to say" in discussion groups that they have thought trough beforehand. So they won't shy away from participation due to lack of confidence in their knowledge or opinions. I want to put this idea to the test in the class I am going to teach:

"Does provision of discussion topics before class time enhance group discussions in classroom?"

I will teach two math based topics in class. After each topic I present a sample problem and ask the students to get together with their assigned discussion partners and solve the problem. They will be asked to individually submit their responses via Poll Everywhere. I will keep responses hidden till everybody has submitted their responses. The first problem will have been posted in advance and students informed that they will have to discuss it in their groups. This will be my "treatment". My "control" will be the second problem that will be presented as a surprise but all

else will be the same. I will then exploit the exogenous variation in treatment status between the two group discussion phases and compare the recorded outcomes on Poll Everywhere to see if there is any meaningful difference between treatment and control.

There reason I have chosen problem solving as discussion topic of both treatment and control is that I have observed that it is where economics student struggle most. This is because economics is known as a social science and is mostly chosen by students that mathematics is not their strongest area. So problem solving is where I can better observe impact of improved teaching strategies. Additionally the outcome of math based problems is easier to measure.

The hypothesis is: under treatment phase where the students have been informed of the discussion topic before class compared to the control phase where the discussion topic comes as a surprise, I should observe a) more correct responses and b) more correlation between responses submitted by members of the same group as a result of enhanced group discussion.

I would use data from quiz responses submitted to Poll Everywhere to provide evidence (if any) for the above stated hypothesis.

Self-Evaluation, Classroom Teaching Experience, and TAR Reflection

Reflection is an essential part of the learning process. Use the questions below to reflect on your classroom teaching experience and the design and execution of your TAR project. Questions 8 & 9 refer to your TAR project.

1. What did you learn by conducting the teaching session? From the students? From your peers? From your self-evaluation?

The main issue I struggled with was time management. I had to leave the very last part of my lesson plan that included a new topic and half of my TAR plan for the next class session. The tradeoff I faced was answering student questions on previous topic I covered versus finishing the lesson plan. Given that the topic was challenging I made the call to postpone the last part of the lesson plan that included another challenging topic and make sure that students have well understood what I taught. I believe more practice and better planning are keys to solving the problem in the future.

Also this was the first time I used open ended questions on Poll Everywhere to collect responses for class discussion. I found that I should have better clarified the topic and question. This was also pointed out by my peer observers. I also should have been more careful about visibility and legibility. I partially fixed it in class.

My peer observers suggested that I should avoid using certain color schemes and fonts on lecture slides. I was also recommended to repeat questions for the class before responding and present a short "topics of the day list" at the beginning of class.

2. How did you prepare for the teaching session?

I went over the slides provided by my professor from last semester and made proper changes based on my teaching style and updated material. I also added animated pen writings that I can click through instead of writing and talking during class time. This enabled me to be more organized and focused. I also avoided forgetting points that I wanted to make. Then I proof read the slides. They were posted by the professor on eCampus without the animated pen writings. Those were meant to keep the students engaged. I provide the pen written slides after class.

I also designed and inserted two problems in the slides for my TAR project. One was on the posted slides and announced before class. The second one was to come as a surprise. I also prepared open ended polls on Poll Everywhere for these problems and the end of class discussion on posted reading materials.

I went over the textbook and the two reading assignments that the student were supposed to discuss and planned and practiced my lecture.

3. How did you deliver the teaching session? (How did it go?)

Everything went according to lesson plan except for the fact that I faced more questions than anticipated. So I decided to leave one topic and the relevant group work and problem for the beginning of the next session. I also gave them more time than planned for group discussion. I realized that they needed it especially because it took the class a while to understand the question. This was the first problem they were solving on this topic. Also it was the first time I was using Poll Everywhere for an open ended question.

4. Considering how the teaching session went, what would you do differently and why?

I would have practiced to move faster through the introductory parts that were easy in order to save time.

5. How has the teaching experience assisted in preparing you to become a future faculty member?

Having to prepare a lesson plan made me pay more attention to aligning teaching strategies with assessments and learning outcomes. Also as mentioned earlier, I learned to think more about time management.

6. List College Classroom Teaching (ENGR, GEOS, SCEN 677) resources (e.g., lecture topics, in class activities, handouts) that you found particularly useful in the planning, development and/or delivery of your classroom teaching session. Briefly describe the benefit of each resource and how it was used. If no resources were found useful, please respond, "I found no class resources useful", and then list what resources would have been useful.

I used the following in developing and delivering my lesson plan. They enabled me to choose proper outcomes and relevant teaching strategies and assessment techniques.
- *Handouts on "Bloom's Taxonomy: Verbs & Question Stems" and "The 5 Families – Teaching Strategies"*
- *The lecture on "Integrated Course Design" and "Classroom Assessment Techniques"*

I used the following in my TAR planning and implementation to come up with an interesting question and collect data to answer it.
- *The lecture, discussion, and class activity we had on "How to enhance group discussions in classroom" including the cards with questions on the front and answers on the back side*
- *Poll Everywhere*

7. In what ways did writing a philosophy of teaching statement help you to prepare for your classroom teaching session?

It prompted me to think in a deeper way about how I teach and why I teach. It induced me to plan my class based on what I believe in about teaching. This made me more enthusiastic about teaching, put in more effort towards reaching my goals, and enjoy doing it. This is all because I more consciously knew why and how I teach.

Teaching-as-Research Plan

State your research question: *Does provision of discussion topics before class time enhance group discussions in classroom?*

State your hypothesis: *Under treatment phase where the students have been informed of the discussion topic before class compared to the control phase where the discussion topic comes as a surprise, I should observe a) more correct responses and b) more correlation between responses submitted by members of the same group as a result of enhanced group discussion.*

8. Was your hypothesis correct? How do you know? What evidence do you have for or against your hypothesis? (Analysis)

*Each question in treatment and control phase had two parts. In treatment phase **all** students in class responded correctly to the first part. Unfortunately only 4 of 18 (**22%**) students in 4 different discussion groups gave a correct answer to the second part. The rest including other members of the groups that contained one student with correct answer either did not give an answer or gave a wrong one. So probably this correct answers were not shared with group parties or not accepted by them. I interpret this as a sign of discussion not being very effective in creating an environment for idea exchange. That being said, the second part was harder to respond to. This might also have contributed to the weak results.*

*In control phase that was done in the following session, 9 of 21 (**43%**) in 5 groups gave the correct answer to the first part. For the second part this was 5 of 21 (**24%**) in 3 groups. Here the rate of correct answers is lower than the treatment phase but higher connection is seen between both right and wrong answers submitted by members of the same discussion group.*

*It seems that the **first hypothesis is supported** as the rate of correct answers increased when students were informed of the topic before coming to class. But the **second hypothesis is not supported**. If anything more sharing of ideas is observed when the topic comes as a surprise.*

9. Based on your evidence, what was effective about your teaching-as-research plan? What needs to be improved?

This result probably is because when the question is presented before class, students will have already had the time to think and find the answer. So they will have more confidence in their responses and find less need to engage in a discussion.

So informing the students of class discussion questions in advance helps with learning but not through inducing them to engage in group activity. I believe assigning some grade to the group outcome would help encourage students to share their findings in their groups.

Of course it should be noted that this research is too small in scale.