Microteaching Topics - September 17, 2015

NOTE: Please note that you can present the material in any way you want :). This is great practice for when you will TA your class this quarter.

Here are some things to think about to help as you prepare. Similar to how there are multiple ways you can present your research, you will find that there are multiple ways to teach a topic and the all-important question is, "which way is best?" The elusive answer to this question is tough to pin down, but if you are thinking about this question, the odds are pretty good that you are in good shape :). Think of your favorite song. If you were to throw the song into a blender and randomly place it back together, it would not sound that great. So even though the blended song and the original present the same information (same notes, lyrics etc.) one is awesome to listen and the other not so much...O_o. The only thing that is different here is the ***order*** of the notes and while this is only one thing, it is very important.

The same applies to a lesson plan. There are certain key pieces of information that you can present, but the clarity of the material can be highly dependent on the order in which you present it. Getting a feel for this is something that does take practice and is something that we will be going over in 495 and during the microteaching sessions.

The topics below were selected because they all are the intro to major units or are major topics by themselves. Topics like these are easier to motivate why the particular subject is worth learning as opposed to a subset of the particular topic. This motivation is important because students will be more eager to learn something/be naturally curious if they can see the significance of it. After all, if the topic made it into textbook, it is pretty important :). Therefore, motivating each topic is really important because calculations come after concept and the first step to understanding how something conceptually works is to conceptually understand why it is important. If there are no calculations involved, then setting up understanding of the concept is even more important. Oftentimes, explaining why the topic is important involves explaining the conceptual nature of the topic anyways, so there is definitely time for this and it helps student learning a lot.

So in preparing for your lesson please consider the motivation for your topic and you will find that this will help to make the rest of your lesson run quite smoothly :D. Please feel free to use picture, analogies etc. This is highly encouraged :). You can even use pop-culture analogies if you want!

For the microteaching, you will have ten minutes to give your discussion and then we will spend five minutes discussing your discussion. That goal is that you will learn as much (if not more) from observing other people teach as you did by doing it yourself. Different people have different teaching styles and may demonstrate to you something which you never thought of before and would like to try out yourself. Likewise, you will have input for others too so by doing this the goal is that with each additional microteaching session we will all become better teachers :). Also, have fun! This applies for any type of class you are teaching to. If you are enthusiastic and enjoying yourself, the class will too and will learn the information better :).

Please keep the following in mind when preparing your microteaching topic!

1. Motivate the subject
    (a) Hook/engage the class with why this topic is cool (but don't go into massive historical detail!). This should be short and sweet :)
2. Ask the class questions/check to see if they follow you...engage the class!
    (a) If the class doesn't respond do not just give the answer. If you do this in your actual discussion you will never get a class response since you set the standard that non-engagement is acceptable so to practice not setting that example, in our microteaching sessions you should attempt more engaging methods if the class does not respond such as:

i. Rephrasing the question
ii. Asking a simpler question to assist in answering your initial question
iii. Have the class use fingers to give an answer if they are too embarrassed to say it out loud (ex: put up 1 finger if the answer is "positive" 2 fingers if "negative" or 3 fingers if you don't know).

3. Use analogies and pictures when appropriate

Finally, for five of the six microteaching sessions you will be playing the role of student for your peers. You must ask student-like questions, otherwise we will! Look at the TA from the perspective of a first-year student. While to a grad student the discussion may be very clear and make perfect sense to you, it might make too many assumptions, have gaps in knowledge for and not check in enough for understanding from the perspective of an undergraduate who is new to the subject. Please keep this in mind as you observe (and prepare yourself!).

1. If the class doesn't respond (which at the beginning of the quarter is common unless you set the standard that you won't feed them the answers) don't move on and use another more engaging technique (ask a simpler question, have then use their fingers to indicate a response)

Blue: 1:00 p.m. to 2:30 p.m.
Green: 2:30 p.m. to 4:00 p.m.
Magenta: 4:30 p.m. to 5:00 p.m.

Last Name	First Name	Topic
Bagdasarian	Alex	Photoelectric Effect
Basile	Victoria	Photoelectric Effect
Basu	Arkaprabha	Beer's Law
Baumann	Daniel	Beer's Law
Bradner	Shane	Titrations
Buratto	William	Titrations
Cosco	Emily	Heating Curve of Water
Dander	Jacob	Substitution Reactions
Dotson	Jordan	Serial Dilutions
Einck	Vincent	Serial Dilutions
Erkkila	Christopher	Substitution Reactions
Fan	Zili	Lewis Dot and Molecular Geometry
Harr	Erick	Titrations
Hatfield	Daniel	Verifying an Experimental Rate Law
Li	Yolanda	Lewis Dot and Molecular Geometry
Lin	Fang-Chu	Lewis Dot and Molecular Geometry
Mak	Wai	Beer's Law
Mansfield	Kathryn	Beer's Law
Murzinski	Emily	Photoelectric Effect
Panescu	Priera	Photoelectric Effect
Rodriguez	Hannah	Le Chatelier's Principle
Rosser	Ethan	Substitution Reactions
Schmalz	Joseph	Substitution Reactions
Scott	Wendell	Titrations
Shao	Brian	Serial Dilutions
Smaligo	Andrew	Serial Dilutions
Susick	Robert	Substitution Reactions
Tamshen	Kyle	Substitution Reactions
Tang	Grace	Le Chatelier's Principle
Urwin	Derek	Le Chatelier's Principle
Wan	Chengzhang	Photoelectric Effect
Winchell	Katharine	Photoelectric Effect
Yamano	Michael	Beer's Law
Yao	Jingwen	Beer's Law
Zhai	Huanchen	Verifying an Experimental Rate Law
Zhao	Chuanzhen	Verifying an Experimental Rate Law