

The Flipped Classroom—Chapter 2: Data Analysis

For my Chem 1 classes, Chapter 2, Data Analysis, will be presented using the Flipped Classroom (also called Reverse Instruction). In this approach, learning will occur at home, using videos that I have prepared, supplemented by video notes to follow along and touchstone questions during the videos to test for student comprehension. Practice, in the form of worksheets, will occur in the classroom under the guidance of the teacher(s). In this way, the traditional model of learning in the class and practicing at home is flipped.

I have selected Chapter 2 as a unit to use this methodology because of the advantages that I see in it. First, students watch the videos, which are the same lessons I would be providing in a classroom setting, at their own pace. They can stop and review the videos at any point, take breaks, and move forward only when ready. The videos are always available for review, so when preparing for quizzes or tests, students can go back and watch the videos as many times as needed. Second, students have the teacher(s) available during practice to help them overcome any obstacles and difficulties. I had observed that frequently students would reach a block in the practice at home and come to class without having completed enough of the work to master the concepts. By working in class, the student has the ability to work through problems with the help of the teachers and can more readily master the material. In addition, students who have mastered the material will have the opportunity to strengthen their understanding by helping their classmates. It is well-documented that students gain a firmer understanding of material when they can explain and teach it themselves.

It is important to note that the Flipped Classroom is NOT “self-help,” nor is it other teachers’ videos teaching the students or independent study. Students learn as I have designed, and any questions they have are readily addressed the next day in class. We still cover the same material, but now the students have the opportunity to work, to a point, at their own pace, and to get the help they need when they need it.

In this method, it is VITAL that students follow the model and keep up with the videos. Students will watch the videos on edpuzzle.com, which is connected to our Google Classroom, and will answer a few questions on each video as they complete special video notes. Videos are also available on my YouTube playlist (<http://bit.ly/2xf0f1B>) and my Lecture Notes page (<http://bit.ly/2xbo9Lg>) for further viewing. Completion of each nightly video watching assignment by the due date, as confirmed by your completion of the edpuzzle quizzes, will count as a 2-point homework assignment. Failure to complete them within 2 school days of completing the previous video will result in a 0 for that assignment. Note that some videos must be completed in pairs.

Grading in this unit will involve a slight change from my usual grading. I will maintain a chart of “Mastering Chapter 2” concepts, and will record the date of mastery of each concept. Mastery will be measured by the ability to complete *most* of the worksheet covering that topic by the day after it is distributed in class. This is necessary to keep students on-task, to ensure that they are prepared to learn the next lesson, and to encourage anyone who may be having difficulty to get extra help immediately.

There will still be some traditional aspect to this unit. There will be several labs to reinforce the material, and we have one quiz and a unit test at the end.

Please follow the assignments diligently and keep up with the material. It is especially important to follow the process, as the concepts we are studying in Chapter 2 are the tools that we will be using through the rest of the year to analyze the data. Tell your teacher(s) as soon as you start to feel that the material is becoming difficult, and get extra help as soon as needed. Finally, be sure to check out Tyler Dewitt’s YouTube channel at <http://bit.ly/2MytTUz> for more videos on the concepts in this unit.