**Week 1 of StatPath**

<http://tinyurl.com/statpathweek1>

<http://www.youtube.com/watch?v=wesQ3y_Asks>  
<http://www.youtube.com/watch?v=-k6rYQ4ewpI>   
<http://www.youtube.com/watch?v=8-E4kKjqKOo>

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| Questions | Replies |
| *What part of statistics do you suggest covering in StatPath?* | We suggest a strong focus on conditional probabilitiy (categorical versus categorical tables). We also suggest delving deeply into measures of center and spread. For example, if the median is defined as a number such that equal amounts of values lie above and below it, then the mean can be defined as a number such that the sum of the distances to each value above the mean is equal to the sum of the distance to each value below the mean. Now standard deviation follows beautifully. The rest of the semester is up to you! If you started with categorical versus categorical, then moved into quantitative versus categorical (comparing backpack weight for males and females), then you might want to move into quantitative versus quantitative (regression). Personally, I am working on developing some activities around the central limit theorem. |
| *For this first cereal lesson, did you review how fractions or percents are calculated so students could calculate what fraction/percent of kid/adult cereals were on a particular shelf? did they learn to reduce fractions?* | StatPath employs a "just-in-time" approach to teaching pre-algebra concepts. I did not review or even front-load anything. We just delved right in. However, I did tell students, "Statistics only requires some concepts of pre-algebra and a strong academic identity. So, whenever we get to a pre-algebra concept, I'll slow way down and explain things in detail. I've found that even Calculus students need refreshers so I think this can help everyone." I haven't found that reducing fractions is important pre-knowledge for statistics so we didn't get into it. If a student is interested, I'll help them and then make sure they explain it to others during presentations. |
| *Do you allow calculator use throughout the course?* | Yes I allow a calculator because we allow one for statistics. |
| *What other dev math skills, if any, did you incorporate into this lesson?* | Parts of a whole (when discussing conditional probability), fractions to decimals to percents, summing to 100%, I should have also done summing to 1 but didn't. |
| *Did you lecture on any statistical charting concepts? How make pie charts or bar graphs?* | Any pie or bar graphs seen in the videos came from previous knowledge. That's one of the concepts of acceleration. Put students in a group and someone's going to remember something useful. I also walked around and encouraged people when one person in the group would make a cool suggestion (like using a pie chart). |

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| *Are students expected to work together outside of class when doing homework?* | StatPath meets 8 hours/week. The lab time is built into the course. We also try to build in lots of "practice time" into class time so when they go home, they are ready to try it on their own. For especially hard assignments, I'll spend 1/2 having students explain their answers the following day. However, most StatPath students are part of a cohort program that requires Friday study groups. I also sit with students during our 1-hour lunch break and help review material. Students do spontaneously meet outside of class. |
| *What is your time split during class, roughly, between lecture time and student interaction time?* | I try not to lecture but it's hard because I was so good at it! If I'm in front of the class, it's either to take care of logistics, to help setup a scenario, to generate a class discussion on a topic or to summarize/reflect on the day's events. For example, I'll bring up something on the digital projector and then have a discussion on it. Even then, I try to have students talk with other students by saying, "Oh that's great Lena! Did you guys over here hear her? Do you have any questions about what she just said?" |
| *I'm the type of teacher who just picks up a textbook and lectures. What percent of your lessons could be gleaned from a text and/or outline. If so, what statistical and developmental texts are you using?* | The outline and handouts I show on the website are all I ever use during class. There's no textbook. Actually, I can make everything available but frankly, I didn't want to scare people away! I'm assuming most people will say, "That's great Tue, but I can't do that." To which I'll reply, "That's OK! Let's see what you feel comfortable doing..." The solution could involve finding a good textbook that teaches exploratory statistics (Jessica Utts writes a good one apparently). Perhaps you'll choose to use some of our curriculum for the first few weeks, and then transition to a textbook. You could decide to start out with a full-blown statistics book and work at a snail’s pace, seeing how far you can get by the end of the semester. |
| *I also wondered what your take was on the learning experience of weak students who are in subgroups with stronger students who take charge and do a majority of the work. I seemed to see evidence of that not uncommon phenomenon during the YouTube video.* | We've found that putting weaker students in challenging situations really accelerates their learning. There's a grey zone between "too easy" and "I quit". I call it "frustration". That's the zone I shoot for. If I can keep students frustrated for all 4 hours, I've succeeded. If it gets too hard or I see students checking out, I employ a multitude of strategies. If it's just 1-2 students, I work with them 1-on-1 for 10-15 minutes. If it's many students but they're scattered throughout the class, I stop and do a reflection or group discussion. If it's an entire group, I work with that group until I sense they have traction. Then I immediately leave and check back in 10 minutes. |
| *In general, the cereal kind of data analysis in this first lesson is the experience my college-level stat students DON'T GET in my class and so i value this hands-on real-data approach.* | Yeah, giving students a multi-variate data set to see what they come up with, with me as facilitator pushing here and pulling there, is real fun teaching. We've also found that using TinkerPlots is an amazing tool and has become a focal point of the course. |
| *How can you run StatPath without a computer room? Without group work capabilities?* | A core essential of StatPath is [TinkerPlots](http://www.keypress.com/x5715.xml). We don't have many core essentials, so we strongly urge your college to support this effort. It costs $1000 for a one-time site license. We also strongly suggest using a computer lab for a minimum of 2 hours/week. At LMC, StatPath is an 8 hour/week course and we use the lab 4 hours/week. As for group work capabilities, although there are group work friendly rooms, most rooms can be converted into group work spaces. At LMC, we do group work in a computer lab! |
| *What is TinkerPlots?* | [TinkerPlots](http://www.keypress.com/x5715.xml) is a fun, EASY computer program that allows students to quickly generate multivariate dot plots and histograms. Please click on the link to watch a couple short introductory videos. |
| *Is there a related text to LMC's StatPath?* | LMC created its own material, but it is still in its developmental stages and we don't suggest trying to teach from it. Here is our suggested reading from LMC's StatPath Course Outline of Record.  Parts 1-3 of *Seeing Through Statistics* , 3rd edition (2005), Utts    ISBN-10: 0-534-39402-7 (Parts 1-3)  Chapters 1-6 of *Statistics Concepts and Controversies*, 7th ed., Moore and Notz  ISBN: 1-4292-2345-6  Units I-III of *Workshop Statistics: Discovery with Data and Fathom* 2nd ed., Rossman and Chance (2008) ISBN: 978-0-470-42331-8 |