

TOM MATTSON TEACHING STATEMENT

Teaching is an on-going process of learning new strategies, techniques, and ideas. Each time that I teach a course, I learn something new that I try to incorporate in future semesters. My philosophy is to experiment continuously with new methods, assignments, and course designs to make my courses more rigorous, relevant, and interesting. Through this experimentation, I am confident that I have significantly improved as a teacher since I started teaching, which has increased the learning value of my courses. Furthermore, I am committed to act on all advice to continue to improve as a teacher to increase student learning for many years to come.

Across any course that I teach, I have three primary objectives: 1) create enthusiasm for technology at the school, 2) create deliverables that balance academic rigor and practical relevancy, and 3) incorporate project-based learning.

First, after any technology-based class that I teach, I want students leaving those classes having the confidence that they can use technology to solve all types of business problems in an efficient and effective manner. This objective is particularly important in a liberal arts university that does not have a particularly technical student body. I try to accomplish this objective by having the students build technological solutions using easy to use (often point-and-click) technologies to solve real or simulated business problems. For instance, in one semester I had the students build a mobile application using the saleforce.com platform to analyze customer data. At the end of the assignment, the students were able to download and use their application on their mobile phones, which helped the students see how easy (and useful) a mobile application was to develop and deploy. I use these types of assignments with technology-based deliverables to get our students excited about how business students can successfully build technical solutions without needing a computer science level of technical knowledge.

Second, it is important to balance academic rigor with practical relevancy, particularly in information systems and data analytics courses. The academic rigor helps students develop their critical and analytical thinking skills while the practical relevancy helps them apply that knowledge to problems that they will actually have to perform in their jobs or internships. For instance, in my undergraduate data analytics elective, I teach an optimization module. In this module, I teach students how to use Excel's solver utility to optimize scheduling, transportation, and clustering problems. It is important for students to understand what solver is actually doing (behind the scenes) in order for the students to enter the correct parameters and to interpret the results properly. In order to do this, I have to teach the students how solver's evolutionary algorithm works and what a Lagrange multiplier is, but it is not practically useful for our students to know how to perform these calculations manually. Therefore, each semester I continuously adjust to find the correct balance between rigor and relevancy.

Interestingly, this balance between academic rigor and practical relevancy is much different for our liberal arts undergraduate students than it is for our MBA students. My undergraduate analytics classes are focused more on analytics production (i.e., actually performing analytics) than on analytics consumption (i.e., using somebody else's analytics). When I first started teaching at the MBA level, I kept this same focus but I learned through my subpar teaching evaluations that this was not appropriate for our MBA students. As such, I now focus more on analytics consumption at the MBA level (while still having them perform analytics using point-and-click tools). To do this, I incorporate a data analytics simulation where the MBA students

use a data analytics dashboard that is provided to them to practice data driven decision making without having to produce the dashboard themselves. I also now incorporate discussions where the MBA students consume (use) their colleagues' analytics to practice evidenced based management, which helps our MBA students not lose sight of why they are building the tools that they are building. Based on the significantly improved teaching evaluations, this new focus has had more learning value and practical relevancy for our MBA students.

Third, I try to incorporate project-based learning in all of my courses. Projects are a wonderful complement to tests because projects often involve longer-term work without the added pressure of having to memorize any material. While there are many wonderful published cases, many only partially cover my specific learning objectives. Therefore, I either customize published cases to meet my specific needs or I build my own cases. By doing this, I get to control the narrative of the cases' protagonist(s) to fit my students, which is important to motivate them to exert maximum effort on the project. For instance, Harvard Publishing has many cases pertaining to managing projects but the focus of those cases is typically on teaching project management principles as opposed to data-driven decision making. Therefore, I built a custom case using the project management context to teach specific principles of evidenced based management. These custom cases have been excellent learning resources and assessment tools for my students. I will continue to expand my existing library of custom cases in the coming academic years in order to further their learning value.

In order for project-based learning to be successful, I must be available and approachable inclass and outside of class. If my students are scared to approach me when they encounter problems during these projects, then the learning value of those assignments declines. Furthermore, giving challenging projects without a solid support system to help students successfully complete those deliverables creates a frustrating learning environment. Therefore, I constantly attempt to reduce the power distance between me and my students to ensure that my students are comfortable discussing their classroom problems with me.