Data Science: Recruiting, Comforting and Intertwining Multi-disciplinary Students in the General Education Curriculum

TREO Talk Paper

Laurel Miller
Temple University
laurel.miller@temple.edu

Abstract

Data Science is a general education course that was introduced at Temple University by the Department of Management Information Systems in 2014 (Schuff, 2018). Every organization uses data that crosses every field and every job. The use of data is no longer just the job of technologists; it is a requirement for all who want to participate in the knowledge economy. Data is readily available in a format that the average employee can use. Whether it is web traffic data provided through Google or crime data provided by government-sponsored open data initiatives.

The course, which is open to all across the university, gives students the practical, applied skills necessary to work with data. This includes its selection and assessment, analysis, visualization and presentation. Students complete a series of hands-on, computer-based in-class exercises using available software tools. The exercises are designed for beginners with little technology experience.

The course outcomes include learning how to do an original data analysis to create visualizations and an infographic that tells the story with solutions to a problem. Overall the course has been very successful with robust enrollment (32 sections consisting of 1522 students since 2014) and satisfaction (average student feedback score of 4.2 out of 5). However, there are several enduring challenges:

Issue 1—Recruiting students from multiple disciplines outside of the business school: Students default to staying ‘home’ preferring to take courses in their own school. To address this lack of awareness, we (a) meet with advisors across the university, (b) produce and hand out postcards about the course, (c) offer a university wide competition in data analysis, and (d) appoint student ambassadors, who are involved in their home college through student organizations and can help ‘spread the word’.

Issue 2—Fear of Technology: How do you bring together students from different disciplines and teach them about things that they are not familiar with? Even today, many students that take the course are fearful of technology and data analysis since it may not have been an emphasis in their major. To address this problem, (a) we repeatedly tell the students that they do not need prior experience to succeed in the course, and (b) assign a student worker to help the ones who struggle with the course content.

Issue 3—Group work is difficult for students who come from different disciplines: Each student has learned a different style for group and project work. These differences lead to different ideas and arguments on how things need to be done. With regular intervention and guidance, the students learn to work together and this has led to great project results. For example, analyzing the top 100 songs on Spotify according to danceability, energy, loudness, valence and other filters.

During the presentation, I will engage the audience in a discussion around the issues, possible solutions and next steps for integrating Data Science into the general education curriculum.

References