

DATA CUSTOMIZATION IN EXCEL-BASED TAKE-HOME EXAMS

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ABSTRACT

Covid-19 pandemic forced many of us to teach our courses using alternate mode of instruction via Zoom. In this mode of instruction, cheating has been a major concern for online exams. There are a number of ways to prevent cheating; however, many have privacy-related issues. Moreover, none are infallible in preventing cheating. As a matter of fact, there exists no perfect way of preventing cheating. Given the importance of online teaching, pandemic or no pandemic, and the fact that the true purpose of examinations is learning and not just grading, an approach for examination design for undergraduate courses that require data analysis, such as Business Statistics, is proposed in this presentation.

It is generally accepted that take-home exams are a better approach in assessing students' comprehension of the subject matter. It is, however, easier to cheat if the same data set is given to all students – one can just change the file name and submit it as their own work. One way to get around this problem is to randomly generate a data set, individualized for each student. Even if the students “cooperate” on the solution methods, they must implement what they learned from each other using their own data – and that is the whole idea of examinations as a learning tool and not as merely as a means for grading. Furthermore, due to randomization of the data, for example, (using a statistical inference example) a null hypothesis can be rejected with one data set, whereas it cannot be rejected with another.

In this presentation, issues related to randomly generating data using Excel functions will be outlined. Examples will be given from implementing such an approach over the past two years in an undergraduate upper division Business Statistics course.

Keywords: MS Excel, Business Statistics, Randomized Data Generation, Alternate Mode of Instruction