100/100

see comments below

-BJ

Group C Proposal 1: by Emily Boncek, Christopher Chang, Kelly Chang, and Stephanie Sindler

Survey of Carnegie Mellon Faculty Regarding Attendance and Student Performance (On Campus)

Why is this topic interesting?

We are interested in conducting a survey of members of the Carnegie Mellon faculty community in order to determine if there is a relationship between whether or not a class has mandatory attendance and students' performance in the class. This topic is interesting because there is a large disparity in the way classes are structured across various departments of the university, and thus it is possible for two students of different majors to have entirely opposite classroom experiences. More specifically, many humanities courses are small and discussion based, while many science and math courses are large lectures composed of students from varying technical majors. In general, it is not practical for instructors of such courses to require or take attendance because of the large number of students. This survey is interested in determining if requiring attendance has an effect on or can improve students' performance in classes. We are interested in studying data from past courses, as opposed to data from courses currently ongoing this semester.

it will be important to keep track of which subject each course is in!

Why does this survey need to be done now & who is the client?

This information would be relevant for faculty at the university in helping them define the structure and size limits for their courses. It is also important that this survey is conducted now, as university enrollment is constantly increasing and class sizes continue to grow. The university should be interested in the information from this survey as they consider how many faculty members should be employed for different departments, as well as how they can create an environment where students can be most successful.

What questions we will study:

-What proportion of classes have mandatory attendance, what proportion have attendance optional? Specifically what types of classes are these, and what are the class sizes?
-Overall how does students' performance compare between attendance mandatory and attendance optional classes? This may be measured as the passing rate for the class, or as the percentage of students who get a specific grade, for example an A or B.
-Is there a class size which is "optimal"?
-To what extent does class size influence students' attendance, regardless of whether the class is attendance mandatory or attendance optional?

Previous Work:

Does Mandatory Attendance Improve Student Performance? *by Daniel R. Marburger*; *Journal of Economic Education; Spring 2006; 37, 2, pg. 148*
Link: http://proquest.umi.com/pqdlink?vinst=PROD&fmt=6&startpage=-1&ver=1&vname=PQD&RQT=309&did=1038089401&exp=01-22-2016&scaling=FULL&vtype=PQD&rqt=309&cfc=1&TS=1295811338&clientId=3259
This article examines whether or not instilling an attendance mandatory rule has any effect on student performance within the class, ultimately proposing that this rule should have a positive impact on exam performance. This paper gives an example of results that are directly related to the survey topic that we wish to examine.
Found by: Emily Boncek

Correlation of examination performance with lecture attendance: a comparative study of first-year biological sciences undergraduates *by Derek Gatherer and Francis C.R. Manning; Biochemical Education 26 (1998) 121-12; Elsevier*
Link: http://www.reocities.com/derek_gatherer/biochem_edu.pdf
This article shows a study in which the authors tested how first-year biology students performed on an exam in relation to how often they attended class. This experiment gives more information on how undergraduate students' performance is affected by their attendance, which would be very useful to refer to in our project.
Found by: Christopher Chang

Evaluation of Factors Influencing Student Class Attendance and Performance *by Stephen Devadoss and John Foltz; American Journal of Agricultural Economics, pgs. 499-507; Oxford University Press*
Link: http://www.jstor.org/stable/1243268
This article evaluates the multiple factors that could have an effect on a student's attendance and their grades: this includes the student behavior, the teacher's characteristics, and the course's characteristics. This information could be very useful in developing our survey, and perhaps considering other types of policies that could improve student performance in addition to the attendance policy.
Found by: Kelly Chang

Impact of Class Attendance Upon Examination Results of Students in Basic Medical Sciences *by Habib-ullah Khan, Aziz Marjan Khattak, Ihsan-ullah Mahsud, Akhtar Munir, Shaukat Ali, Muhammad Hussain Khan, Muhammad Saleem, S. Hamayun Shah; Gomal Medical College,Dera Ismail Khan, Pakistan*
Link: http://www.ayubmed.edu.pk/JAMC/PAST/15-2/Habib%20Attendance.htm
This article shows the results of an experiment in which the authors examined whether students who regularly attended class had better exam grades than those who did not regularly attend class (specifically in a medical school). These results would be useful to keep in mind while doing our survey, as it does show the correlation between good/bad attendance and good/bad test results.
Found by: Stephanie Sindler

I want you to
(a) construct a single list from these various sources, with each fac member listed once;
(b) draw a sample from that list
(c) work hard to get responses just from the people in your sample in part (b)

Sampling Frame:
The sampling frame is the list of faculty whose email addresses are in the Carnegie Mellon directory or listed on departmental websites. We will probably want to focus on finding faculty for our sample through listing on department websites.

Target Population:
Our target population is Carnegie Mellon faculty members who teach undergraduates at the Pittsburgh campus. The population which we wish to make inferences about is Carnegie Mellon undergraduate students at the Pittsburgh campus. In this case, the sampling frame and target population are the same.

A possible sampling error could be that the number of responses from a specific college may not be proportional to number of available majors in that college. For example, the number of majors in the College of Humanities and Social Sciences is much larger than in the Mellon College of Science, so we would probably not want to sample many more science classes than humanities classes.

this presents a potentially interesting weighting problem! more later...

We are also concerned about non-response error, as some professors may be sensitive to releasing information regarding grade distribution or class performance. In addition, there is possibility for measurement error because some professors may inaccurately estimate grade distributions, as opposed to others who may be able to provide exact and correct responses through documented records from their classes.
Finally, a source of coverage error may be that there might be some professors who are neither listed in the directory or on departmental websites, for example if they were just recently hired and the relevant listing was not updated.

Mode of Data Collection:
Email online survey, face to face is also possible. Email is most convenient, if professors prefer we can accommodate for face-to-face interviews.

my only worry about email/web is that response rate will be poorer.

Variables to Measure:
Whether or not the class is curved
Level of course(100, 200, etc)
Whether or not the class it is mandatory
Attendance: percentage of students who attend the class
Performance: Grade distribution

you should either explicitly record the department of each class, or do stratified sampling by department (or possibly college) within the university, so that different effects for different subject areas can be explored.